The Japanese Home Front 1937–45

PHILIP JOWETT

ILLUSTRATED BY ADAM HOOK

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Series editors Martin Windrow & Nick Reynolds

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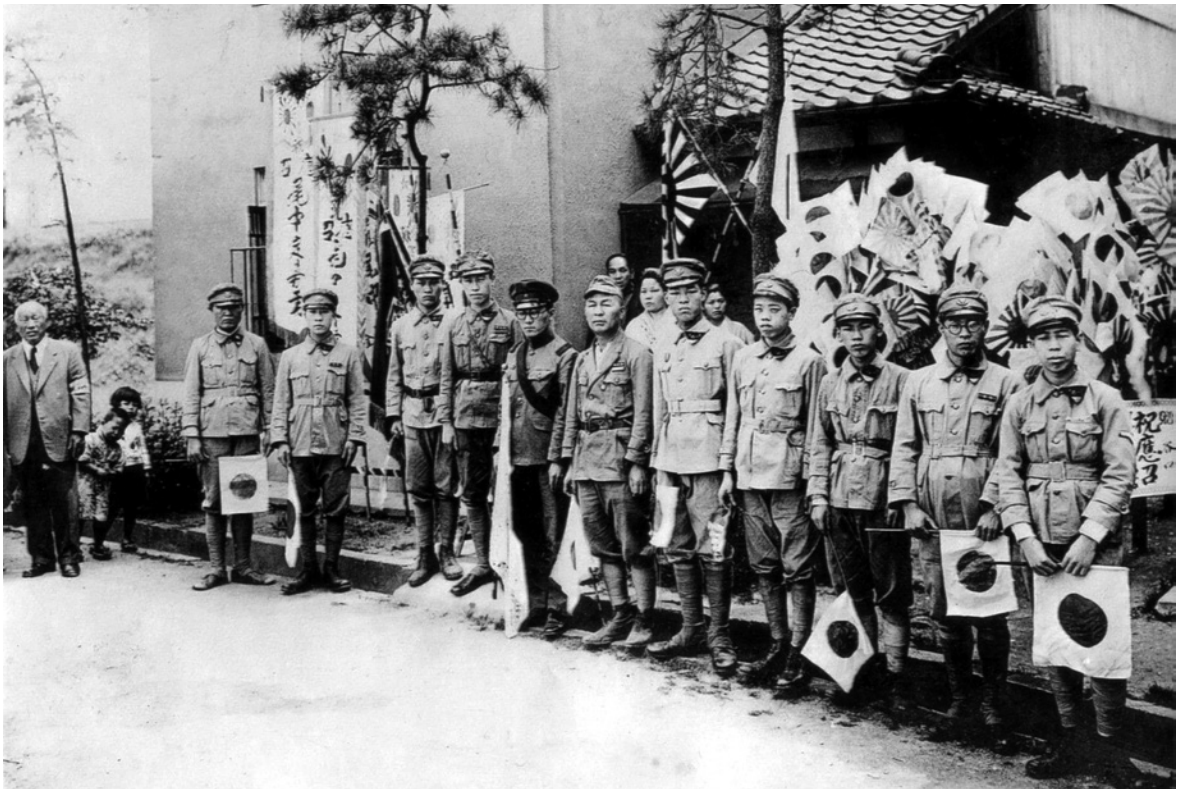
THE JAPANESE HOME FRONT 1937–45

INTRODUCTION

By the beginning of the Second Sino-Japanese War in July 1937, Imperial Japan had undergone an extraordinary transformation over a relatively short period of time. In the 1860s it was a feudal state with a level of technological development that was equivalent to that of 17th-century Europe. By the early 20th century, Japan had transformed itself into a modern industrial state with powerful, modern armed forces. Japan refused to be treated as an unequal partner in the world as its rival in Asia, Imperial China, had been by the West. It defended its newly won power and parity with the longer-established powers by military means and fought a series of wars against China and Russia between the 1870s and 1905. By the early 20th century Japan had gone from seeking to defend its integrity to striving to expand its influence throughout East Asia. By the 1930s Japan was the pre-eminent power in East Asia, its main rival for dominance being the Soviet Union. The Japanese people had been largely supportive of their country's military involvement on the Asian mainland, even after a defeat at the hands of the Soviet Union in Mongolia in 1939.

The caption to this photograph reads "Japan Organizes for War!" It features a 3,000-strong march-past by middle-school pupils in the summer of 1935. They are parading at Joto Parade Ground for Prince Higashikuni Naruhiko, the regional commander of the city of Osaka. Within a few years many of these boys would be fighting in China, where large numbers of them would be killed or wounded. The Japanese public became increasingly concerned over the next few years that the Second Sino-Japanese War was a pointless and costly conflict for their country.



A group of various political and military groups wait by the road to wave their flags for their local Imperial Japanese Army regiment going to fight in China in 1937. The average Japanese was certainly patriotic enough to want to celebrate the successes of Japan's armed forces in the early days of the Second Sino-Japanese War. As the war dragged on and the casualty list grew, however, some of the enthusiastic flag waving had to be organized locally. Some subtle and not-so-subtle pressure was then put on members of the Japanese public by various officials to turn up to these celebrations of an increasingly unpopular war.

Japan's armed forces had been involved in aggression against Nationalist China since the Japanese invasion of Manchuria in September 1931. Japan's population was not greatly affected by the limited fighting of the early 1930s, but this began to change in 1937. In July of that year the fighting between China and Japan escalated from a low-level conflict into full-scale war. Japan launched an invasion of northern China that spread to large parts of the country and saw hundreds of thousands of Japanese troops committed. The fighting in China was largely one-sided in the late 1930s and Japan won victory after victory while the Nationalist Army suffered horrendous casualties. The Japanese people were encouraged to see the war in China as a "great adventure" for their nation, won at little cost to Japan itself.

Japan's victories were not without cost to the Imperial armed forces, however, as the fighting in China continued for more than four years. To the world's surprise the Chinese and their leader Chiang Kai-shek did not surrender, and Japan's great adventure turned into a "bitter pill" for many. It was obvious from the number of boxes of Japanese soldiers' ashes being brought back from China that the war was not going to end any time soon. In addition, the world's condemnation of Japan's vicious war in China led to crippling economic and trade sanctions being imposed on the country. When the United States froze Japanese banking assets in July 1941, it effectively meant the Japanese would struggle to buy oil on the world market. The Japanese now decided they had little choice but to try to advance their interests by military means.

The first months of war with the United States, the British Empire, and other colonial powers such as the Dutch between December 1941 and mid-1942 saw a series of startling Japanese victories. From mid-1942, however,

ABOVE LEFT
In this photograph, taken on July 2, 1945, young Imperial Japanese Army recruits are shown participating in basic training. By 1944, the Japanese people were being informed that the war might last for 10–20 years. They were also told that tens of millions of Japanese would have to die before the nation would accept defeat.

ABOVE RIGHT
Pictured in September 1937, dancers perform gymnastic exercises for the Japanese press with a caption that emphasizes the fact that not all women were involved in wartime activities. During the Second Sino-Japanese War, which began in July 1937, photograph opportunities organized for the Japanese press mirrored those in Nazi Germany and Fascist Italy. All right-wing regimes, as well as other totalitarian states like the Soviet Union, liked to publicize how healthy their young people were.

the war in the Pacific began to turn against the overstretched Japanese armed forces. The effects of the war began to be felt by the Japanese people, due largely to the conscription of most adult men into the greatly expanded armed forces. By 1943 the Japanese people were starting to feel the effects of the war severely, with rationing and other restrictions introduced. When large-scale United States Army Air Forces (USAAF) strategic bombing raids began in June 1944, Japanese society had to adjust quickly to the "total war" that was now being brought to their doorsteps.

In 1937 Japan had a population of 73 million and had, on first impression, a Western-style democracy with a multiparty parliament, the Diet. The reality was that ultimately, power in Japan was in the hands of the armed forces from the mid-1930s. A main unifying aspect of the nation was loyalty to the Emperor Hirohito and the Imperial system. The five Home Islands of Japan – from north to south: Hokkaido, Honshu, Shikoku, Kyushu, and Okinawa – were divided into 47 prefectures. Prefectures were the next administrative level below the national government and were largely a reflection of the division of Japan during the Shogunate Era, which gave way to the Meiji Era in the 1860s. While 43 of the prefectures were loosely based on population levels, three were based on the larger cities of Osaka and Kyoto and the national capital, Tokyo. Owing to its relatively small population, the northernmost Home Island, Hokkaido, was administered as a single prefecture. Civil-defense organizations were organized regionally and the police, fire, and other emergency services were outdated. They were simply not designed to deal with the kind of warfare that the Allies would inflict on Japan during the war. It would be the ordinary Japanese people who would suffer before the war ended in August 1945, with an estimated 550,000 civilians dying. The Japanese wartime leadership were willing to see millions of their people die resisting an expected Allied invasion in late 1945 or 1946 with bamboo spears in their hands.

MEDICAL SERVICES

The Japanese Red Cross

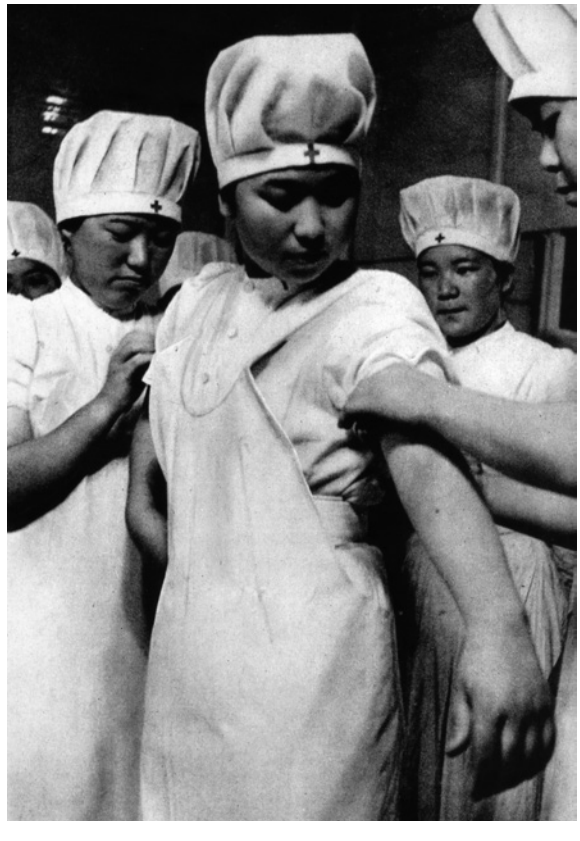
The *Nippon Sekijujisha* (Japanese Red Cross Society) was founded in 1877 as a volunteer relief service and soon became a member of the International Red Cross. Its main role was the training of nurses for military and civilian service on a three-year course that was available to graduates of high schools. During World War II the course was shortened to two years and recruits with lower qualifications were accepted. If the recruits were going into military service an extra three months' training was added onto the course. Graduates of the longer course were called "Class A" nurses and those who completed the shorter course were "Class B" nurses. An average of 1,900 Class A nurses graduated per year, along with 1,000 Class B nurses.

Red Cross training was also given on a mass scale in 10,000 schools, with an average of 400 pupils enrolled in each school. In theory this gave a grand total of 4 million first-aid-trained school pupils, although they were only trained to a basic level. Some of these school trainees were used during the war to help staff the 38 Red Cross hospitals, which had a total capacity of 7,600 beds.

Surprisingly, Red Cross nurses did not participate in relief operations during the war, keeping to their hospital nursing role. The only non-nursing role that Red Cross workers became involved in was the distribution of prisoner-of-war parcels sent by Allied authorities. This was a far-from-perfect

BELOW LEFT
A recruitment poster for the Japanese Red Cross features a nurse wearing the standard dark-blue uniform. The insignia on her uniform is made up of the Red Cross armband, two brooches, and a silver five-pointed star on the lapel of her dress. On her left breast she wears the silver Red Cross service medal with the red and white ribbon.

BELOW RIGHT
Newly qualified nurses help each other to put on their freshly pressed white uniforms before their graduation ceremony. Japanese nurses were often photographed in pristine uniforms meeting wounded soldiers at railroad stations. Imperial Japanese Army nurses wore a brown uniform in the summer and a dark-blue felt uniform in the winter, with caps in the same colors.



system, however, with only a fraction of the supplies earmarked for prisoners of war ever arriving at internment camps.

Emergency medical services, 1944–45

During air raids the front-line medical services available to the Japanese people were provided by the first-aid sections of various organizations. These included the first-aid-trained members of the *Keibodan* and the *Tonarigumi* (neighborhood associations). In addition, youths of the *Toku-betsu Gakko Hokokutai* (special school patriotic units) who had received training offered first aid. Anyone who was slightly injured was patched up and sent home, while the more severely injured were sent to *Kyugosho* (field hospitals).

Field hospitals came in two categories, the standard hospital and the "special field hospital." Presumably the second category had more specialized staff and equipment to deal with the most serious cases. Along with the volunteers, the first-aid sections were assigned professional staff including doctors, nurses, dentists, midwives, and pharmacists. A *Kyugobunta* (section) was split into *Kyugohan* (squads), with each squad having 2–5 doctors, 1–3 dentists, and one pharmacist along with an unspecified number of nurses and stretcher-bearers.

From 1941, first-aid stations were set up at strategic points in all the major Japanese cities. There was supposed to be one station per 5,000–10,000 people, but due to the constraints of war this target was not always met. During the chaos caused by the USAAF strategic bombing campaign the organization of the first-aid units was severely affected. A shortage of trained staff was a major problem, with Tokyo suffering as severely as the other big cities. In 1944 there were 8,905 doctors in Tokyo, but by August 1945 this figure had fallen to 2,176. The shortage of nurses was even more severe: a total of 26,200 in 1944 fell to 3,600 by August 1945. Nationally, the numbers of doctors and nurses declined steadily from 1937 to 1945 due to various war pressures. In 1937 there were 61,799 doctors and 119,843 nurses, but by 1941 the respective figure had fallen to 55,302 and 104,770. By 1943 there were 50,417 doctors and 94,836 nurses, and by August 1945 the respective figures were 39,269 and 96,846.

Buddhist monks take on the role of stretcher-bearers during an air-raid and gas-attack drill in the mid-1930s. During the pre-1941 period, civil-defense exercises such as this one were not conducted with the seriousness that the authorities intended. In reality, it was not really clear who the potential enemy might have been during the early to mid-1930s. The nearest potential threat came from Soviet bombers, which were stationed at Vladivostok in Soviet Siberia.

THE POLICE

The *Keisatsu Seidō* (Police System of Japan) had a strength of 84,141 in December 1941 and was organized at a local level by city or prefecture authorities. As well as their usual law-enforcement tasks, the Japanese police also took on civil-defense roles as the war progressed.

As with other civic services in Japan the police were severely affected by the government policy of conscripting all males into military service. With no policy of reserved occupations, policemen were officially as liable to be called up as other civilians. In Tokyo in 1941 there were a total of 23,904 policemen to serve the capital's 6 million inhabitants. By November 1944, this total had fallen to 19,000, many of whom were junior policemen. Osaka had 4,976 policemen in 1941 to serve a population of 2,500,000 people; by 1944 the Osaka police's numbers had been reduced due to the conscription of many of its adult personnel. Tokyo had one policeman for every 251 people, while Osaka had one for every 493 people. In other Japanese prefectures the ratio of policeman to citizens was as low as 1:1,000.

The minimum age for police recruits was 20 in 1937, but due to the lack of available adults the policy was changed during the war. From 1938 some police departments began recruiting boys under the age of 17 to act effectively as junior policemen. They were described as "security secretaries" and performed various clerical roles in support of their adult colleagues. In April 1944, the upper age limit for adult recruitment was abolished and the lower age limit was lowered to 18; it was further reduced in December 1944, to 17 years. Presumably, some of the junior policemen became regular policemen, although some were kept in their junior roles. Regardless of these initiatives the size of the police force fell, so that when Japan surrendered in August 1945 there were an estimated 41,000 policemen. One of the US

Pictured in 1941, this Tokyo policeman directs the traffic with hand signals and has a megaphone in his hand to convey instructions if necessary. On the left arm of his standard black cotton uniform he wears a red armband with white bands, which denotes his duties. The mask he wears is not in case of gas attack, but to protect him from the pollution in the congested streets of Japan's capital.

Police uniforms

The basic black police uniform consisted of a black cotton tunic and breeches, plus woolen puttees. The uniform was worn with a peaked cap with a badge on the front. The cap badge, a 16-rayed star, had eight large rays emanating from a central disc, with another eight smaller rays interspersed between them. During the war the peaked cap was often replaced by a black field cap. Like every other uniformed force in Japan in the 1940s, the police received simplified uniforms when stocks of pre-1941 uniforms ran out. Cloth and leather shortages affected all uniformed personnel and 15,000 Tokyo policemen were issued with "substitute footwear" during the war.

A new police rank system was introduced in 1935 to replace the earlier system used since 1908. Rank was displayed on the black cotton shoulder boards of the tunic, which were edged in gold braid for all ranks. The ranks were: policeman – black shoulder boards with one star in the center; sergeant – black shoulder boards with two stars down the center; assistant inspector – black shoulder boards with a single gold braid band and one star in the center; inspector – black shoulder boards with a single gold braid band and two stars down the center; superintendent – two gold braid stripes with two stars down the center; senior superintendent – two gold braid bands with three stars down the center; chief superintendent – gold shoulder boards with two stars; superintendent supervisor – gold shoulder boards with three stars.

occupation authorities was to increase the number of policemen to pre-1937 levels.

A number of regular policemen during the war were armed, but this was done on an ad hoc basis. When the war ended there were 12,000 revolvers in Japanese police armories, but there were reported to be 170 different models in service.

A

POLICE PERSONNEL

(1) *Kempeitai* sergeant, 1939

Although all combatant nations in World War II had military police, the Japanese *Kempeitai* also had a role in policing the civilian population. Many *Kempeitai* personnel wore plain clothes while on duty, however, and only put on their armbands when necessary. The uniformed staff wore standard military uniform – in this NCO's case, a peaked cap and M98 uniform. His distinguishing insignia includes the gold rayed symbol behind his collar rank bar and a black chevron on his right breast. On his left sleeve he wears the distinctive armband bearing the *Kanji* characters for "Military Police" in red. His riding breeches are tucked into the tops of his high leather boots and he has an NCO-grade *Shin-gunto* sword hanging from his belt. Slung over his shoulder are the belt and holster for his 8mm Type 14 Nambu semiautomatic pistol.

(2) Constable, *Keibitai*, Tokyo, 1944

This police constable is part of the small "elite" group known as the *Tokubetsu-keibi-tai* (Emergency Service Unit), or *Keibitai* for short. The *Keibitai* were responsible for security in the center of the Japanese capital, Tokyo, from 1944. He is wearing the standard black police peaked cap with gold cap badge and the standard black cotton tunic with shoulder boards bearing a single gold star. On the left sleeve of his tunic he wears a white armband with the black characters for *Tokubetsu-keibi-tai* stenciled on it. He wears black breeches, black leather gaiters in place of the standard black wool puttees, and black leather boots. On parade, members of the *Keibitai* wore white gloves; they were armed with the FN 1922 semiautomatic pistol and a police-model dagger or dirk, the latter usually worn only for ceremonial reasons.

(3) Junior policeman, 1945

This youth has been recruited by his local police force to act as a junior constable whose role was to act as a secretary or messenger for his adult colleagues. He wears the black field cap-style headgear with a metal badge on the front, which largely replaced the peaked cap in police service during the war. Plain black cotton tunics were worn along with breeches; puttees were made from gray linen. On the left breast of his tunic he has a single yellow woven 16-rayed insignia denoting the lowest-ranking police volunteers. As he is the duty officer for his youth section, he has been given a red armband with two white bands that denote his role. He is carrying messages in his canvas bag from his police headquarters to an outlying station.

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The *Kempeitai*

Formed in 1881, the *Kempeitai* were the feared military police of Japan, who earned an unsavory reputation during World War II. Unusually, their police activities within Japan expanded from purely military into civilian affairs. According to US intelligence, by August 1945 there were 75,000 *Kempeitai* personnel, the majority of whom were employed abroad policing the conquered territories that now formed the Japanese Empire. There were at least 10,000 *Kempeitai* operating in Japan, however, either in uniform or in civilian clothing. Their influence and power continued to grow during the war and they were given free rein.

One of the *Kempeitai*'s main responsibilities was looking out for defeatist and other "dangerous thoughts" among armed-forces personnel. *Kempeitai* officers were given free rein and were allowed to arrest suspect officers who were up to three ranks senior to them. They could even deal with suspects without having to seek approval from a higher authority. There were three categories of *Kempeitai*, the first being the *Kaimu Han* (uniformed police). The second, *Haikin Han* (administration officials), were responsible for keeping records on anyone who was seen as a threat to Japan. Another, smaller branch was formed by the *Tokumu Hani* (special-duty troops), who did most of the really unsavory work. Part of their remit was to recruit thousands of household servants to act as spies for the *Kempeitai*. Maids and other servants were expected to supply the police with regular updates on any "unpatriotic" behavior exhibited by their employers.

The *Tokubetsu Kōtō Keisatsu*

Japanese society in the interwar period was heavily controlled at various levels of government. Unsociable and particularly "unpatriotic" behavior was heavily frowned upon by the Japanese authorities, and the government's obsession with monitoring and countering subversive behavior and left-wing sympathies led to the formation of a section within the *Tokubetsu Kōtō Keisatsu* (Special Higher Police), known as the *Tokkō*, to control "dangerous thoughts." Created in 1927 as the "Thought Section of the Criminals Affair Bureau," this new section was responsible for investigating antisocial behavior among the Japanese population. They were to investigate any subversive, unpatriotic, and especially radical behavior by the population. The Japanese authorities were obsessed with the threat of Communism and sought to stamp out any signs of left-wing activity.

At first the Thought Section was a small force, with only 50 personnel available in Tokyo in 1930, and their numbers had risen to only 380 by 1932. They worked closely with any trusted leaders of the local neighborhood associations. They also encouraged Japanese people to become informers and report any suspicious behavior by their neighbors. Surprisingly, though, the police were more likely to deal with any miscreants by means of a "rap on the knuckles" rather than with imprisonment. Some commentators described the Thought Section as acting like overbearing priests, who would give those who had stepped out of line a moral lecture before releasing them.

From 1928 through 1941 there were 62,000 cases of people suspected of having "dangerous thoughts," with 5,000 put on trial. Most of those found guilty were given short sentences. During the interwar period there were 30,000 arrests of students, but nearly all of them were released without charge after a stern warning.

By 1935 the "threat" of left-wing troublemakers had been largely dealt with, according to the *Tokkō*. They then spent the rest of the 1930s dealing with other perceived "enemies of the state," including members of suspect religious groups such as Jehovah's Witnesses and some Buddhist groups. Surprisingly, given they were agents of a right-wing state, the *Tokkō* also kept a close watch on any Japanese Nazi or Fascist parties.

After 1941 the *Tokkō* were given responsibility for controlling the thousands of Chinese and Korean laborers working in Japan. They also controlled the thousands of Allied prisoners of war who were forced to work in the mines and factories of Japan. Unfortunately, the *Tokkō* did not extend their light-handedness to the Asian and Allied forced laborers, who were subjected to brutal treatment.

The *Keibitai*

The *Keibitai* (Police Defense Corps) was an elite formation of armed police formed in Tokyo in April 1944, tasked with performing specific security measures in emergencies; its members were to put aside their usual duties to receive military training. It was formed to replace the *Shin sen Gumi* (Special Guard Unit), which was dissolved and its personnel largely incorporated into the *Keibitai*. The Special Guard Unit had gained a good reputation during its existence, especially in 1936 when it resisted the February 26 military coup centered in Tokyo.

There were about 1,800 *Keibitai* personnel in Tokyo, formed into 12 battalions with 150 men in each. Battalion commanders held the rank of police superintendent and each battalion was divided into two platoons of 74 men each, with each platoon commanded by a police inspector. Smaller platoons of 35 men were commanded by an assistant police inspector and sections of ten men were each led by a sergeant.

A line of firefighters are depicted in their gray uniforms while on parade at the start of the Pacific War in late 1941. Their heavy coats were made from a heavy woven cotton material and their helmets, covered in the same cloth, had a bamboo frame. Regular firefighters were few in number and relied on the support of the *Keibodan* and civilian volunteers in 1944–45.

THE FIRE SERVICE

Japan lagged behind other nations in the 1930s when it came to firefighting and relied heavily on part-time firefighting organizations. The Japanese had a tradition of volunteer firefighting, which might have been adequate in the 19th century; but even in peacetime in the 20th century the fire departments were not capable of dealing with larger fires, particularly in multistory buildings in large cities. During the war the fire departments simply did not have the modern equipment necessary to fight the heavy incendiary raids they were to face. The USAAF air raids of 1944 and 1945 would have proved daunting if not impossible to deal with for even a sophisticated fire service with modern fire trucks and equipment.

There was no nationwide fire service in Japan during 1937–45, with only small fire departments existing in the largest cities. Full-time professional fire departments existed in

Firefighters of the Kyoto City Fire Department drill with their motor pump in preparation for USAAF air raids. They wear the heavy cotton-covered bamboo helmet, heavy cotton coat, and trousers, along with Wellington-style rubber boots. Their squad leader, with a rank of fire sergeant, has a single band at the bottom of his neck guard and one around his coat cuff. They are pulling a hand-drawn pump that could produce 120 gallons of water per minute.

only six of Japan's big cities – Tokyo, Osaka, Kyoto, Yokohama, Kobe, and Nagoya – but even in the bigger cities, the fire departments were small and had a shortage of modern equipment along with largely untrained personnel. These fire departments were barely sufficient for peacetime duties and certainly were not capable of dealing with wartime situations. A US intelligence report stated that the average fire department in a Japanese city did not even compare to its counterpart in a small town in the US Midwest.

In the prewar fire service, recruits were aged between 19 and 35 years and had to be at least 5ft tall. Firemen were not exempt from military conscription and the fire service lost many of its more experienced staff after 1937. Only men who were deemed to be unfit for front-line service were allowed to stay in the fire service or to join as new recruits. One measure adopted to replace those men who had been conscripted was to lower the age limit to 17 and raise the upper age limit to 44; also, youths aged between 15 and 17 were recruited as junior firemen – but only if they weighed over 115lb and had eight years of education. These junior firemen acted mainly as office boys, messengers, and air-raid-alarm operators. Further support for the regular fire service came from student volunteers aged between 17 and 20. Those students exempt for military service had to attend their local fire station every third day. In Tokyo there were a total of 3,460 student firefighters serving during the air raids of 1944–45.

Fire service training

Before the outbreak of full-scale war with China in 1937, Japanese firemen received three months' training at fire schools for eight hours per day. Physical training included military parade-ground drill; there was of course some training in the use of firefighting equipment, but this was not really deemed to be a priority. Physical training took up 60 percent of the trainees' time while the other 40 percent of their time was spent in the classroom. Instruction was given by fire sergeants, sub-officers, and captains, while the fire schools themselves were commanded by battalion chiefs. During the war this already inadequate training regime was reduced to 30 days, which gave the trainees a basic course but still included unnecessary military drill. After they had completed their training they usually worked on a two-platoon rotation, with firemen on duty for 24 hours and then having 24 hours off duty.

Fire service uniforms

The regular fire service had two uniforms, the dress or parade uniform and the service uniform, with the former composed of a black tunic, trousers, and peaked cap. Service uniform included a rather medieval-looking helmet made of bamboo and covered in cotton, with a silver pommel at the top and a bronze badge on the front. The cloth used to cover the bamboo frame of the helmet was heavy, woven, light-gray *Shikoro* cotton. Some helmets were covered in dark-gray or black cotton, but the vast majority were light gray. Attached to the rear and sides of the helmet was a loose-fitting neck guard, which was padded and made from the same *Shikoro* cotton material. During a fire the neck guard was worn pulled forward over the wearer's face to protect the mouth and nose from smoke. This gave the wearer the appearance of a medieval knight, with just the eyes exposed to the heat.

The symbol featured on the cap and helmet badges was a 17-rayed sun, with five main rays radiating from the center of a central disk and another 12 smaller rays spaced in between them, in the center of a laurel wreath.

The second item of uniform was a loose-fitting double-breasted overcoat made from *Shikoro* cotton material, worn with a cloth belt. The overcoat was worn with trousers made from the same heavy cotton material, a cotton shirt, and a pair of Wellington rubber boots. In reality this clothing was prone to catching fire amid the intense heat of the fires created by the USAAF firebombing raids of 1944–45. To try to counteract this, the firemen would douse each other's helmets and coats with water. This action might have been effective when dealing with a normal household fire, but it was largely futile in the all-consuming conflagrations that confronted Japanese firefighters during the war.

ABOVE LEFT
The cover of a Japanese magazine of 1944 features a young volunteer firefighter trying to deal with the result of a US air raid.

ABOVE RIGHT
This page from a Japanese illustrated magazine published in 1945 shows the typical clothing and equipment of volunteer firefighters. Male volunteers were in the minority by 1945, as most able-bodied men were serving in the armed forces. The right-hand figure is a female volunteer who, like the man on the left, is wearing a civil-defense helmet. Female volunteer firefighters wore their own peasant-type clothing with the addition of a wadded-cotton fire hood. Some women were issued with regular firefighters' helmets left behind by conscripted male firemen, which they wore with their civilian clothing. Even in the dire situation faced by Japanese women during the war, some wore stylish tailored fire suits made from black cotton.

The fire-service rank system

After the full-time fire departments were incorporated into the regular police along with the *Keibodan* in 1939, a dual-rank system seems to have developed. A rank system like that used by the *Keibodan* was worn by some firefighters on the chest of their overcoats.

During fires, another rank system was worn on the neck guard of the fire helmet. Ranks above fireman were displayed by a series of white or silver braid trims around the hem of the neck guard. A fire sergeant/squad leader had one thin braid around the hem, while a sub-officer had a single broad braid. Fire captains had two braids around the hem, with the higher one being thin and the lower one broad; battalion chief officers had two broad braids around the hem of their neck guard, while assistant chief officers had three braids. In some cases, the same rank system of braiding was applied to the cuff of the overcoat, but this does not appear to have been universally applied.

Ranks could also be displayed on the fire helmet with a system of metal bands that were fastened around the base. It can be assumed that the same system of one, two, or three bands was applied to the helmet's metal bands as on the neck guard.

In response to the increasing level of USAAF air raids in 1944 and 1945 the larger cities tried to expand their fire departments. The city of Kyoto, with a population of 1,000,000 people, had a fire department of only 700 men in 1941. During the war the city realized that it needed more firefighting personnel and in April 1944 tried to raise the levels to 1,211 men. Despite the council's best efforts, only 329 new firefighters were recruited and they were poorly trained. Tokyo's number of firemen increased from 2,000 to 8,100, with 2,700 of the increase composed of junior firemen. It proved impossible for the Tokyo authorities to recruit enough personnel to reach the desired 12,500 total, however. Kobe also increased its number of firemen from a paltry 414 to 1,830, and Osaka increased its total of 1,335 firemen more than fourfold, to 5,781. Large cities were each divided into fire districts with a division in each; these districts were in turn divided into battalion districts, with 5–6 fire stations in each of the latter.

By late 1944, when it was most needed, at least 20 percent of firefighting equipment was out of service. This was due to the poor condition of the fire service's worn-out equipment and a lack of mechanics to service it. Japan had a general shortage of modern firefighting equipment and was especially short of equipment capable of reaching multistory buildings. In the whole of Japan there were only four truck-mounted aerial ladders, three of which were in Tokyo and one in Kyoto. Tokyo had only one serviceable fire truck, a German-made Magirus with an 85ft extendable ladder. Its other two fire trucks, with 100ft ladders, had defective turntables and needed new motors, which were unobtainable. In 1943 Tokyo had 280 pieces of firefighting equipment, which by early 1945 had been increased to 1,117 pieces, including 559 water pumps. Much of this new equipment had been confiscated from rural fire brigades, however, and was not suitable for fighting duties in an urban environment.

Private fire brigades

In an attempt to make up for the inadequacy of the regular fire departments, a number of alternative firefighting groups were formed locally. Private

fire brigades were raised in workshops and factories, especially during the last two years of the war. The personnel were raised from the shop floor and received some limited training from the regular fire service. One of the largest factory fire brigades, which included rescue and other personnel, was based at the Mitsubishi Aircraft Company's plant in Nagasaki. This was composed of a 70-strong full-time firefighting unit, plus 3,049 part-time firemen and 2,233 men in so-called "Guard Units." First-aid and antigas personnel totaled 2,217, with 1,361 other workers organized into associated units responsible for light-control and repair roles. In some better-equipped factories, at least one hand pump was available, but this would have been of little use when dealing with a fire of any significant size.

Many universities also had their own volunteer firefighting brigades, and student volunteers took part in training courses three times a year. This course only lasted 80 minutes, with an hour of fire drill followed by a 20-minute lecture in a classroom. With little equipment available for the university firefighters apart from buckets and shovels, these courses were canceled from 1944 as a waste of time and effort.

Some Shinto shrines had their own firefighting forces, and these were sometimes better organized than those private fire brigades raised in factories. Their equipment was paid for from donations by the congregation, who did not trust the overstretched regular firefighters to protect them.

Householders were also aware of the inadequacy of the regular fire departments, as was the national government. In 1942, households were supposed to have basic firefighting equipment available, with at least shovels and water buckets on hand. Any families that did not follow these requirements could be heavily fined, usually by their local neighborhood association.

The neighborhood associations' role in firefighting

Neighborhood associations and their predecessors had fought local small-scale fires for decades. From 1942 to 1943, however, they had to take a major role in firefighting due to the shortage of regular firefighting personnel. Each association had a leader and assistant leader, but in many cases an "air raid defense leader" – a younger member of the association who was often more agile than the older officials already in place – was in charge. The associations had to organize and take part in regular fire drills to improve their capabilities as there was now a potential threat of USAAF air raids. From 1943 the heads of the associations were told to conduct surprise air-raid drills to try to concentrate their

This image, issued by Japanese officials in 1944, shows the sort of equipment and clothing used by local volunteer firefighters. The level of equipment is pitiable, with a bamboo stretcher, a handcart, a hand-operated pump and hose, and several types of tools. Overalls, a straw helmet, and a fire hood would have given little or no protection to the wearer amid the intense heat of a fire and in reality would do more harm than good.

members' minds on the impending threat. These drills were mandatory, but according to reports few people took them seriously until the heavy USAAF firebombing raids of late 1944 and 1945.

The lack of modern equipment was a major problem for neighborhood association fire crews. Each local group was supposed to have a two-man water pump, but these were rarely available. They were given responsibility for fighting local fires, *Chikabi*, with nothing more than water buckets, rakes, and other hand tools. The reality for the amateur firefighters of the neighborhood associations was that they could only hope to put out small fires. Although these "bucket brigades" were willing to try to fight the huge fires caused by the USAAF air raids, the reality was that the only blazes they could deal with were on the periphery of the large fires.

Some big Japanese cities had a *Bokugun* (neighborhood association air defense group), which worked in parallel with the larger group. In addition to their firefighting role the neighborhood associations also had a role in enforcing the blackout, which was in place from 2200hrs until dawn.

Some – usually wealthier – families understood the fire threat and had concrete water tanks delivered to their homes and set up in their gardens. The water tanks were kept topped up by the family or their servants and could hold 60–70 gallons of water from which to fill buckets.

B

FIREFIGHTING PERSONNEL, 1944–45

During the heavy USAAF firebombing raids of late 1944 and the first eight months of 1945, a hodgepodge of regular and volunteer firefighters tried to fight the resulting blazes. This plate features a regular fireman, an auxiliary fireman, and two civilian volunteer firefighters, one male and one female. In reality, the limited amount of equipment available to the firefighters meant that their courageous efforts were futile.

(1) *Keibodan* fire officer, 1944

This auxiliary fire officer, a member of the *Keibodan* organization (see pages 21–25), is wearing a civil defense helmet with attached wadded-cotton neck guard. His heavy *Shikoro* cotton double-breasted coat is the same as that worn by Figure 2, but is dyed in a variant of the khaki color worn by the *Keibodan*. On the left sleeve of his coat he has a cloth *Keibodan* five-rayed symbol, which identifies him as a middle-ranking officer. Underneath his coat he wears a green-khaki shirt and breeches, but he has been unable to obtain a pair of fireman's Wellington rubber boots. His role during an air raid and in the ensuing fires is to use his handheld cranked loudhailer to alert the civilian population about the impending danger.

(2) Firefighter, Tokyo, 1944

This firefighter is a squad leader, as shown by the single braid around the hem of his helmet's heavy cotton neck guard. His bamboo helmet with metal pommel is covered with *Shikoro* heavy woven cotton fabric and has the metal badge of the fire service on the front. There has been some confusion as to the design on the badge, due to the fact that some helmets were used after 1945. Surviving examples are usually found with the post-1950 metal badge attached, but this fireman has the adapted 1939–45 version. From 1939 the fire service adopted the *Keibodan* five-rayed device, using it until the end of the war. During a fire this clothing was usually doused with water by fellow firefighters before the wearer entered a blaze, but in reality this action gave only limited protection to the firefighter.

(3) Volunteer firefighter, neighborhood association "bucket brigade," 1945

This young female firefighting volunteer is wearing the adapted civilian clothing pressed into service as her firefighting apparel. She wears the peasant *monpe* pantaloons along with a loose-fitting brown blouse and wadded-cotton fire hood. The hood was tied around the neck and the bottom formed a mantle to protect the wearer's shoulders. Although the hood was designed to protect the wearer, the extreme heat of a fire often set them ablaze, with tragic results. On the left breast of her cotton jacket she has a small cloth name patch and she has pinned her badge from the Great Japan Women's Association. On the left sleeve of her jacket she wears a locally produced armband, which states that she belongs to the "Civilian Air Raid Patrol." Girls like this were formed into so-called "bucket brigades," members of which fought fires with wholly inadequate relays of fire buckets.

(4) Volunteer firefighter, Kyoto, 1945

This volunteer firefighter has equipped himself with a mix of military-style and civilian clothing, including a locally sold helmet made from fiber. Although better than nothing, his headgear does not offer a great deal of protection when fighting fires. On the left sleeve of his cotton civilian jacket he wears the linen armband for the "Kyoto Air Defense Squad." His light-khaki breeches are castoff military clothing, while his hessian puttees and brown canvas shoes are typical civilian items. He wears a civilian gas mask of a type sold on the open market to satisfy the high demand from the Japanese people. His medieval-looking fire axe is the same as those used for at least a century previously by community firefighters.

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Antigas measures

It must be noted that Japan was the only World War II combatant to use gas to any degree, with various types being used in attacks against Chinese guerrillas during 1937–45.

After World War I the Japanese people, like those of other countries, were very concerned about the danger of gas attacks. As early as 1928, gas masks were worn during annual fire drills and military maneuvers. Japanese military planners believed it was essential that a core population of 16,500,000 people should be issued with gas masks, and in 1934 large-scale production of gas masks began at six factories, with the intention that the target issue figure would be reached by 1945. When full-scale war between China and Japan began in July 1937, the production of masks was ramped up. The year 1938 saw a new push to increase gas-mask production, but by August 1945 a total of only 9,650,000 had been produced.

It was estimated that during the war, 50 percent of the urban population had gas masks; it was thought that gas masks were not needed in rural areas. Surprisingly, no masks for children and babies were produced, as they were in Britain, but large numbers were produced for military horses. There were a wide variety of gas masks in use in Japan, with four military types: the Type 87 (1927), Type 91 (1932), Type 95 (1935), and Type 99 (1939). Some of these were issued to civilian organizations, but the clamor for gas masks from the public created a lucrative market for them. During the 1937–45 period there were eight types of civilian gas mask sold, with several companies producing each type. Prices ranged from 3.70 yen to 14.50 yen, with the cost usually related to the quality of their production. The main quality criterion was how long the filter in the mask lasted, but even the more basic models were adequate. Other Japanese antigas equipment was totally inadequate, however, and the various types of antigas suits made from poor-quality rubber gave little protection to the wearer.

A neighborhood fire drill takes place in Tokyo in July 1943, with a variety of civil-defense personnel involved. Neighborhood associations usually organized local air-raid drills with the assistance of their local *Keibodan* units. The larger drills took place every few months, but local ones could be called every week during the war. Several types of gas mask are being worn by the participants, with most *Keibodan* personnel having to buy theirs from retailers.

A mix of *Keibodan* and regular policemen stand in the doorway of a local fire station during 1944. The policemen wear the black field cap, which largely superseded the peaked cap worn before the war. On the left of the photograph are two *Keibodan* auxiliary policemen who served alongside the regular police. Two of the policemen wear white linen armbands, which presumably indicated to the public what their exact role was during air raids.

THE KEIBODAN

Given the relative weakness of the existing police and firefighting organizations, it was decided to organize an auxiliary force to supplement both emergency

The *Keibodan* rank system

The *Keibodan* rank system was complicated by the varying size of its component units and the disjointed nature of its organization. Rank was displayed on the collar of the tunic, with the lowest rank, "Guard," having a single five-rayed device in the center. This insignia had been used by the Japanese police for many years and was adopted by the new organization. Group leaders had a single silver bar with a single rayed device above; division leaders and their deputies had one silver bar with two rayed devices. Branch/army leaders had one silver bar with three rayed devices above, vice/deputy leaders had two silver bars with one rayed device above, and commanders/leaders had two silver bars with two rayed devices above.

Rank was also displayed by a system of silver braid bands around the cuffs of the tunic, with guards having a single band around the cuff. Group leaders had two braid bands, division leaders and deputy leaders had one broad band and one thin band around the cuff, branch/arm leaders had two broad bands around the cuff, and vice commanders/deputy leaders had two broad bands and a single thinner band. The highest *Keibodan* rank, commander or leader, was displayed by three broad braid bands around the cuff.

There was also a three-colored rank system with a cloth five-rayed device in one of three colors: yellow, white, and red. This symbol was worn on the left sleeve of the overcoat in a larger size and above the breast pocket of the tunic and on neck guards on the steel helmet in a smaller size. This simplified rank system was yellow for the lowest two ranks, white for the middle two ranks, and red for the highest two ranks.

Also displayed on most *Keibodan* personnel's collars was the name of the city or town in which they served. This usually took the form of two gold *Kanji* characters positioned to the rear of the rank bar. In many smaller units only the lowest rank (guard) and the second rank (group leader) were employed.

Keibodan uniforms

As the *Keibodan* was an auxiliary organization, uniforms were usually purchased by individual members. *Keibodan* uniforms were, however, allowed to be made and purchased without using clothing coupons, although the general shortage of suitable cloth affected their production as the war dragged on. Those who had joined the *Keibodan* in 1939 and the early 1940s could purchase complete uniforms. By 1943, however, some improvisation was required as the lack of good clothing material in Japan began to bite. As the war approached its close, any new *Keibodan* volunteers would have been issued with a simple armband and, if they were fortunate, a cap.

The color of the military-style tunics varied from dark brown to light khaki, with summer jackets made of cotton and winter versions made of wool. Riding-type breeches were worn with black or dark-blue cloth gaiters or puttees, and with black leather boots or shoes. Straight-legged trousers were often worn by higher-ranking members of the *Keibodan*, who usually reverted to breeches when on active duty.

There was no standard helmet used by the *Keibodan*, and those worn were either privately purchased or M32 helmets issued from Imperial Japanese Army stocks. In terms of soft headgear, *Keibodan* members usually wore military-style field caps made from black cotton or wool. It appears that dark-green or gray field caps were also produced. All types had a gold or bronze metal or wire badge on the front. The badge of the *Keibodan* was made up of a five-rayed device with its rays radiating from a circle; this insignia was then superimposed over the top of a traditional *sakura* (cherry-blossom) symbol.

Keibodan personnel tasked with firefighting duties were also issued at times with heavy overcoats made from the same heavy woven *Shikoro* cotton cloth as those worn by the regular firefighters. These overcoats were usually dyed in a green-khaki cloth to match the standard cotton uniform worn by the *Keibodan*. Some personnel also wore the fireman's bamboo helmet with the *Keibodan* badge on the front.

Although information is incomplete, it appears that some *Keibodan* uniforms featured branch badges for each arm of the organization. These were small circular black cloth patches and were worn on the upper sleeve of the tunic. The patch for *Keihohan* air-raid alarm squads featured a red bicycle, the first-aid arm badge had a red cross, and rescue squads' badges had a crossed axe and shovel.

services. By far the most important emergency organization operating in Japan during the war was the *Keibodan*. Formed in January 1939, the *Keibodan* was a volunteer force the purpose of which was to support the existing emergency services, especially in times of war. In most villages, towns, and cities, the *Keibodan* was built around the previous community-based firefighting organizations. Male recruits were aged between 18 and 60 and received little or no pay, with only limited expenses available. Some money was paid to volunteers who were wounded in action, but this system was severely strained in 1944 and 1945.

Keibodan personnel were organized into various branches, known as arms, which performed different roles within the organization. The main arm was the *Shobobu* (fire arm), making up 40 percent of the overall force. There was also the *Keibubu* (guard arm), members of which were basically auxiliary policemen, making up 25 percent of the *Keibodan*.

Because *Keibodan* units were recruited on a local basis their size could vary from as few as 50 members to as many as 5,000. Larger *Keibodan* units were

This fine studio photograph shows two *Keibodan* personnel dressed in their best uniforms and wearing civil-defense steel helmets in 1944. The privately made helmets varied in price, largely due to the amount of metal used in their production. Class 1 helmets had to have a shell with a minimum thickness of 0.05in and a weight of at least 2.03lb. Class 2 helmets were made of lower-grade hybrid steel and had to have a minimum weight of 1.32lb. The Class 1 helmets were priced between 6 and 7.5 yen; the Class 2 helmets were slightly cheaper, with a maximum controlled price of 7 yen. Class 2 helmets were mainly made by the Sasao Bullet Proofing Company, which sold them in local retailers. Both men's uniforms have been made to the same design and have the black collars with rank bars on them, but they are made from different-colored cotton. Details of the breast badges cannot be distinguished in this image, although rank chevrons are visible on each man's right arm.

usually designated as divisions, which were then divided into subunits. Smaller units, designated "arms," were effectively different branches. Each arm was divided into squads and the area they were recruited from could be defined by a particular school or police district. If two *Keibodan* officers from different districts met it was not clear how their ranks compared in terms of seniority. One officer could be in charge of several thousand men while his colleague could command a few hundred or fewer. Reportedly, deputy armbands were worn denoting which officer of the same rank was in charge of a unit. As with everything else in the *Keibodan*, the proportion of other ranks to officers was flexible, with some 20-strong units having three group leaders.

From late 1944 until the end of the war the *Keibodan* concentrated on its firefighting role, but with poor equipment and diminishing manpower they were fighting a losing battle. They had few motor vehicles, with saloon cars and motorcycles being employed as improvised fire trucks. Lack of transport

meant that *Keibodan* units were unable to assist other units outside their jurisdiction, so everyone had to fend for themselves. It is not known how many *Keibodan* personnel there were in Japan in 1944–45, but in Tokyo there were 138,500 in October 1944.

Within the *Keibubu* were a number of branches that were given various responsibilities during USAAF air raids. There were *Chianhan* (political thought squads), the personnel of which were to deal with unpatriotic rumormongers and to report any defeatist talk to the authorities. *Kotsu Seirihan* (traffic-control squads) had the job of controlling traffic before, during, and after air raids. *Fuhatsu Shonhan* (unexploded-bomb squads) evacuated civilians from areas threatened by unexploded bombs rather than trying to defuse them. *Kanshihan* (observation squads) were aircraft spotters and worked alongside the *Keihohan* (alarm squads), which called the air-raid warnings; other members of the *Keihohan* rode through the streets on bicycles, announcing the appropriate alarm using megaphones when available. The other two air-raid-related squad types were the *Toka Kanseihon* (light-control squads), which dealt with the lights-out restrictions, and the *Kosakshihan* (labor squads), which helped clear up after an air raid. *Yudohan* (guide squads) were expected to lead civilians away from bombed areas or guide them to shelters before an air raid.

Some Japanese cities did not suffer the same level of bombing as others; for example, Kyoto was relatively lightly bombed. The city had a total of 140 *Keibodan* units, with 9,700 volunteers organized into units that could have as few as 50 members each. These smaller, more closely knit *Keibodan* units each had one leader and one or two assistant leaders and were split into three arms: guard, fire, and first aid. Guard arms had 20 members in two or three squads, while fire arms had the same number of personnel, but the number of fire-arm squads per unit depended on the availability of motor pumps. First-aid squads in smaller units had only ten members and were given extra responsibilities for antigas duties.

C

***KEIBODAN* PERSONNEL**

(1) Guard, fire arm, 1943

This guard is part of a fire-arm squad, the role of which was to support regular firefighters during an air raid. He is wearing a complete *Keibodan* uniform, which was quite unusual by this stage of the war. His dark-khaki-painted civil defense helmet has a gold painted badge (**2**) featuring the five-rayed insignia of the *Keibodan*. The same insignia is displayed on the black collar of his light-khaki tunic and he has the yellow cloth badge for lower-ranking *Keibodan* personnel on the right side of his chest. On the left side of his chest he has a simple cloth patch giving his name and other identification details. His blue linen armband has the *Keibodan* five-rayed symbol in the center and the white characters denote his role. Black cloth puttees were peculiar to the *Keibodan*, but his cheaply made gas mask is a civilian item available on the open market from 1943.

(3) Guard, first-aid arm, 1944

The *Keibodan* organization was initially reluctant to recruit females, but by 1944 the severe shortage of male recruits led it to relax its rules slightly and some young women were accepted. Some female *Keibodan* personnel went bareheaded, but this young woman wears the field cap – in this case in dark green instead of the standard black. She wears the standard-pattern *Keibodan* tunic, but made from light-brown-khaki cotton material. On each side of her black collar she has a single gold-metal five-rayed insignia of the *Keibodan* and on the left side she has the two gold *Kanji* characters that indicate the city in which she is stationed. Embossed on her belt buckle is the *Keibodan* five-rayed symbol and on her left sleeve she wears a linen armband. The armband indicates that she is a member of the first-aid arm of the *Keibodan* and she has a satchel over her shoulder carrying her first-aid kit. She has managed to acquire a pair of canvas-and-rubber shoes that have been donated by a local military unit.

(4) Group leader, air-raid alarm squad, 1944

This group leader is in charge of an air-raid alarm squad, or *Keihohan*. His air-raid wardens had to ride around the streets on bicycles, raising the alarm with their loudhailers. He wears a superior-quality field cap with a gold wire badge on the front, plus green-khaki cotton jacket and breeches. On his collar he wears a silver bar denoting his rank and he has the two gold *Kanji* characters on the left that denote the city to which his unit belongs. *Keibodan* personnel also displayed their rank with braid around the tunic cuffs, and he has a single band. On the left sleeve of his jacket is a small black disc with the red bicycle badge of the *Keihonan* on it. His armband features the *Keibodan* symbol and has black *Kanji* characters which describe his unit's role within the auxiliary force. Orders were shouted to the public before and during an air raid using loudhailers, which were issued to selected *Keibodan* personnel.

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CIVIL-DEFENSE ORGANIZATIONS

Neighborhood associations

Japan had always had a fairly rigidly regulated society, with most of its people willing to adhere to its rules. These rules were often re-enforced using local patriotic organizations and associations, which used peer pressure to keep people in line. *Tonarigumi* (neighborhood associations) had been in existence in Japan for many years, but were not formalized or centralized. As the rural population moved to the big cities during the Meiji Era (1868–1912), these associations became more important. Improving poor sanitation was a priority for the associations and some were given the title *Eisei Kumiai* (sanitation groups). From 1932 the groups in cities were renamed *Chokai* (block associations) and were joined by the already existing *Tonarigumi.*

The government began to organize the neighborhood associations formally in 1937, but in reality, most were left to regulate themselves. In 1940 the Home Ministry decided to formalize a system of neighborhood groups, with each to support and control its local area. The ministry began by forming *Chonaikai* (community councils), which in cities covered about 100 households each. In rural areas the councils could control whole villages

A young volunteer firefighter fills her wooden bucket in 1944 from a concrete water butt, which would be kept full by the local neighborhood association. She wears what is probably a stylish homemade uniform, with beret and cotton blouse along with a pair of breeches. Local firefighting volunteers often took part in bucket-drill competitions, which involved running around and dousing imaginary fires as quickly as possible.

and by the end of 1940 a total of 180,000 had been formed. Community councils were then made responsible for the formation of the next layer of neighborhood-control organizations. Neighborhood associations were each responsible for 8–12 households, but the sheer number of the former meant it took time to organize them properly.

By July 1942, the government had organized a total of 1,323,473 neighborhood associations, with their wartime role fully defined. They held meetings several times a month with at least one member of each household attending. Neighborhood associations were responsible for organizing fire drills, Saving Bond collections, metal-collection drives, and the making of comfort kits for front-line soldiers. Another important role was to organize farewell ceremonies for troops and the ceremonies to welcome back the ashes of fallen soldiers. Senior members of each neighborhood association were given the task of informing on their neighbors, but their main concern was to ensure that all families in the association participated fully in the war effort.

Women's patriotic associations

The Great Japan Patriotic Women's Association was founded in 1901 with 4,000,000 members and was the first such group organized for women. In 1933 it was joined by the Great Japan National Defense Women's Association, which had a staggering 9,000,000 members. Other smaller women's groups included the Great Japan Federated Women's Association, whose membership like the others was voluntary. In 1942 the government

ABOVE LEFT
An air-raid warden peers into the sky from the entrance of a street shelter, waiting for the expected USAAF air raid. He is being assisted by women fire volunteers who are wearing the widely worn homemade fire hood.

ABOVE RIGHT
In a rare moment of peace between air raids in 1945, six female volunteers of a neighborhood association pose on their ladder. There was little firefighting equipment available for the local volunteers and this ladder would be closely guarded. Household buckets filled with water would often be the only way to try to extinguish fires. Another problem for those people fighting fires was poor water pressure, caused by broken water mains that had been damaged by the aerial bombing.

Pictured in 1935 at one of the regular patriotic meetings that took place in Japan through the 1930s, these young women belonging to the Great Japan Patriotic Women's Association practice antiaircraft tactics. The women of this organization wore a uniform of sorts in the 1930s. This was made up of a white *kappogi* (apron) over which was worn a white sash with black *Kanji* characters on it. Small enamel pin badges were issued to all members of the association; these were pinned on the left breast of the apron. (KEYSTONE-FRANCE/ Gamma-Rapho via Getty Images)

decided to combine all women's groups into the Great Japan Women's Association. This new group's membership was made compulsory for all married women over the age of 20. Members of women's associations were expected to act as safeguarders of the morals and patriotism of the Japanese people. Until the war turned against the Japanese after 1942, Great Japan Women's Association members were expected to stay at home and raise their families. In the last few years of the war, however, the home- and family-orientated role of the Great Japan Women's Association was rendered largely defunct and its members had to participate more actively in the war effort.

BELOW RIGHT
This cover of a June 1943 edition of *Shashin Shuho* (Photography Weekly) features a member of the Great Japan Women's Association. She wears a uniform of sorts, which is a *kimono* with the insignia of the association on the left breast. The paper sheet of ration tickets are for clothing and other cloth products, even including facecloths and string, items that were becoming scarce by 1942. The caption says "Be thrifty with clothing, donate ration tickets," with the message that cloth should be reserved for those needing it most.

FAR RIGHT
This 1938 cover of the *Shashin Shuho* features a young mother of the Great Japan Patriotic Women's Association holding a military gas mask. Her sash says she is a "women's fire defense supervisor" and the gas mask's presence suggests she is taking part in an annual fire drill. As the fighting in China intensified, martial images appeared more frequently and prominently in all types of magazine. The *Domei* national news agency would attend any large-scale meeting, parade, or antigas practice and pass the photographs taken at the event to magazines and newspapers.

PATRIOTIC VOLUNTEER GROUPS

Civilian volunteers

In order to organize civil-defense units in 1945, the Japanese government wanted to recruit "natural leaders," many of whom came from the former *Yokusan Sonendan* (Imperial Rule Assistance Young Men's Corps). Retired military and naval officers were also expected to join and provide some experience to the younger volunteers. On May 12, 1945, the Tokyo council outlined their plans to recruit the corps' personnel, with industrial, office, and government workers being drafted. Men aged up to 65 and women up to 45 would be organized into area units, and firms with over 100 workers would have their workers conscripted. Students were also recruited from existing university groups that had memberships greater than 50. Local leaders emerged from the already existing neighborhood and other associations which had proliferated in the 1930s and early 1940s.

Military-type formations were organized with the smallest units, squads, having 10–20 volunteers, usually working in small workshops or factories. Three or four squads would form a section and three sections would form a company. Three companies would form a battalion and three battalions would form a corps, which fluctuated in size from 1,000 to 3,000 volunteers. In Tokyo, any work-organized units of more than 500 people would come under the command of the governor. All units were practically organized along the lines of seniority in the factory or other firm. In addition, the military experience of the volunteers would be taken into account.

Veterans of all services led a hard core which could be transformed into a combat organization known as the *Kokumin Giyū Sentōtai* (Volunteer Fighting Corps). In April 1945, Japanese government officials estimated that there were a total of 28 million men and women who were deemed "fit for

Members of the Great Japan Women's Association are instructed in arms drill by a regular Imperial Japanese Army officer. In the 1940s women were still largely seen as mothers and housewives by traditional Japanese society. At the same time, however, some working-class females were laboring in factories, coal mines, and paddy fields.

Pictured in 1943, this young member of the Great Japan Women's Association wears the latest military kit and is armed with a 7.7mm Type 99 Arisaka rifle. If the 1945–46 Allied invasions of Japanese had taken place, women like this would probably have been expected to fight with bamboo spears.

Japan's "National Clothing"

As shortages of textiles grew in the late 1930s and early 1940s, the Japanese government introduced a form of national dress that was basically a civilian uniform. Control of clothing led to the establishment of this *Kokominfoki* ("National Clothing") for men, which came in various styles. The clothing included a basic jacket and trousers made from various shades of light-khaki to gray cloth. Military-style field caps were also usually part of the National Clothing ensemble and again these came in various designs.

Introduced in 1940, National Clothing was widely available in designated specialist shops and tailors licensed to sell it. From 1942, it was given a low score in terms of clothing vouchers, but purchasing standard civilian wear required more vouchers. Although National Clothing was heavily promoted by the Japanese government, it was never actually made compulsory. By the last few years of the war, however, 70 percent of Japanese men – especially in urban areas – were wearing it. Some observers were surprised that so many Japanese adhered to the new "dull" clothing, as they were well known for their love of colorful apparel.

There was an attempt to introduce a female version of the men's National Clothing, it being hoped that such apparel would become the new workwear. This smart form of clothing included a jacket, a "Western"-style neckband, and a plain skirt. The clothing was popular with some of the younger, westernized Japanese women, but others preferred traditional dress. As the war progressed, necessity and the chronic shortage of cloth led to the introduction of a female national clothing of sorts. This was composed of a blouse or shirt, teamed with the *monpe* pantaloons worn by the rural women of Japan. When worn by better-off Japanese ladies, attempts were made to make this "unattractive" form of clothing as stylish as possible. The colorful nature of the clothing was mainly down to the fact that it was made from old *kimono* fabric.

D

EARLY HOME-FRONT VOLUNTEERS, 1937

(1) Standard bearer, Great Japan Patriotic Women's Association, 1937

One of the roles of the Great Japan Patriotic Women's Association was to take part in leaving ceremonies for soldiers going off to the front in China. This association standard bearer wears a white silk apron over her *kimono*. Her association insignia includes a white sash over her right shoulder and a small enamel pin badge (**2**) on her left breast. There was a wide variety of GJWA standards, which were made at local level by the members. Most had red fields and all of them had the symbol of the association in the center and *Kanji* characters down the fly of the standard. The colors of the fringe around the flag varied, with black, blue, or – as shown here – yellow being the main ones used.

(3) Air-raid warden, Tokyo, 1937

This civil servant is taking part in an air-raid exercise in Tokyo in 1937 and wears a quasi-military uniform. His civilian cork pith helmet has no insignia; it may well have been purchased privately. Pith helmets are widely shown in photographs of the various air-raid practices that took place from 1928 onward. Although his brown-khaki uniform might have been issued by his local air-defense organization, he might well have had to purchase it himself. On the left sleeve of his brown-khaki cotton tunic he has a deep-blue linen armband that states the organization he is representing during the training exercise. His gas mask – a Type 87, produced from 1927 – is carried in its canvas bag on his chest.

(4) Japanese Red Cross volunteer, 1937

This volunteer nurse wears the standard dark-blue uniform dress worn by members of the Japanese Red Cross organization throughout the war. When these uniforms wore out, nursing personnel often had to improvise as new ones were unavailable due to cloth rationing. The headdress had a small red cross on top and she has enamel badges on her chest (**5**) and at the neck of the dress. From photographic evidence it appears that the Japanese Red Cross nurses were extremely proud of their appearance. They always dressed as smartly as wartime circumstances allowed and were rarely seen without their leather first-aid bags. These bags were supplied by the Japanese Red Cross Association, which also established many hospitals in Japan.

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combat." Out of this huge total, about 2 million men and women enrolled in the *Kokumin Giyū Sentōtai* before August 1945. All men aged between 15 and 60 and women aged between 17 and 40 were liable for service. Exemptions from service were only made for pregnant women and those suffering serious illnesses.

Volunteers were armed with conventional spears or sharpened-bamboo spears, alongside the occasional antique rifle. One student recalled serving in a 20-strong unit; he found he was the only member under the age of 40. He said that there was only one rifle in the unit, the firearm being passed from one member to another each day so everyone had the chance to familiarize themselves with it. Other weapons included museum pieces such as the *naginata* polearm with a curved blade and the *kama-yari* polearm with a hook at the base of the blade. Some members were armed only with agricultural tools, such as awls and *hori-hori* weeding knives, which – according to the leadership – were sufficient to kill the enemy. Prime Minister Suzuki Kantarō took a group of government officials on an inspection tour of an armory for the *Kokumin Giyū Sentōtai*. He and his retinue were shocked to see the level of weaponry available, which included muzzle-loading muskets, bows and arrows, pitchforks, and stacks

E

CIVILIANS UNDERGOING MILITARY TRAINING, 1943–45

Military training for civilians featured extensively in Japanese propaganda publications. In the 1930s and early 1940s, young men and women were featured taking part in bayonet practice. During the last year of the war, mass groups of volunteers from various organizations took part in training with bamboo spears all over Japan. This mixed group of civilian volunteers, made up of a middle-aged office worker, a young single woman, and a student military cadet, are being put through their paces by a disabled veteran of the Second Sino-Japanese War.

(1) Volunteer, Military Section, Kasai University, 1943

This 19-year-old university student is one of the 43,000 youths who were conscripted into the Imperial Japanese Army in 1943. He is still wearing his black cotton winter student tunic with the youth volunteer armband on his left sleeve. Most school and university students wore black cotton jacket and trousers in the winter and light-khaki uniforms in the summer. The rest of his uniform is made up of his university cap, military-style breeches, puttees, and black leather shoes. His equipment is rubberized leather and has ammunition pouches to carry spare clips for his 7.7mm Type 99 Arisaka rifle. He has fixed his bayonet as he takes part in military training alongside his compatriots, who are armed only with spears. The Type 99 Arisaka was a shorter rifle than the standard Arisaka and was suited to the smaller frame of the student. Older equipment was issued to student volunteers and this volunteer has a water canteen dating back to the Russo-Japanese War of 1904–05.

(2) Civilian volunteer, 1945

This middle-class office worker wears the smartest version of the "National Clothing" introduced in 1940. Better-off civilians would go to local tailors and choose from a few different designs of jacket and trousers and often military-style caps. This man's jacket is based loosely on the Norfolk jacket, which was popular with English gentlemen in the 1900s. The purple aiguilette on his chest was worn for purely decorative purposes and did not appear to show the wearer's rank or status. Wearing his smartest office wear for spear training may seem a little strange, but not when you realize that by 1945 many Japanese only had one set of wearable clothes.

(3) Volunteer, Great Japan Women's Association, 1945

This young volunteer is wearing her own clothing: cotton blouse, *monpe* pantaloons, and homemade straw sandals. *Monpe* were the traditional female peasant wear of the Japanese rural population of northeastern Japan. Blouses and *monpe* pantaloons were often brightly colored, as many of the items were made from old *kimonos*. On the left breast of her cotton blouse she has sewn the cloth insignia of the Great Japan Women's Association. This insignia appears from photographic evidence to have been widely worn by members of the association when volunteering for war work.

(4) Disabled Army veteran, 1945

This wounded veteran lost his leg in action in China and has been posted back to Japan. It was expected that disabled veterans would continue to support the war effort at home, and men like this former soldier participated as defense volunteers. He wears a locally manufactured field cap made from straw and issued to the Imperial Japanese Army when standard caps were unobtainable. His off-white cotton fatigue tunic is a leftover from his military service and his wife has adapted his military breeches so that he can still wear them. Above the right breast pocket of his tunic he wears an Imperial Military Reservist Special Member's badge (**5**). On the left breast he wears the *Sensho* class of the armed forces' wound badge (**6**). There were two classes of wound badge issued: *Sensho*, for soldiers wounded in battle, and *Kousho*, for people wounded in public service. This lower class was also issued to soldiers who had to leave the Imperial Japanese Army due to succumbing to illness on active service. He is armed with a bamboo spear, the best available weapon for many of the thousands of defense volunteers.

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This mass parade of military students and young Imperial Japanese Army recruits took place in 1938, with cyclists in the foreground. Like every right-wing regime in the 1930s, the Japanese authorities liked to stage these kinds of gatherings to impress their own people and their potential enemies. There were so many young men in uniform in 1930s Japan that it can be difficult to differentiate between military and non-military groups.

of bamboo spears. One stunned official said that this was hardly a rational way to fight the enemy in the 20th century.

Volunteers tried their best to build bunkers and pillboxes with any available materials and constructed fortifications along likely invasion routes. If there were any mountains close to their base, volunteers dug caves in which to store food and any other supplies should an Allied invasion of Japan take place. Training continued to the end of the war, but the enthusiasm of the volunteers began to wane as the reality of their fate dawned on them. They were said to feel foolish training only with bamboo spears and awls, but they continued to go through the motions until the end.

OPPOSITE
Although this photograph appears to show boy soldiers of the Imperial Japanese Army in 1945, on closer examination they appear to be boy postmen or messengers. Their cap badges are metal eagles with uplifted wings, with the symbol of the Japanese Post Office at the base. Boys and girls were used to fill the gaps left by the conscription of regular postmen for other war work. Female post-office workers usually wore their own school uniforms with the addition of an armband and badge denoting their official role.

Patriotic youth groups

There was a plethora of Japanese patriotic youth groups in existence during the 1930s and 1940s. Most schools, from elementary to high schools, had youth organizations that provided military and other training. There were also *Seinen Gakkou* (specialist schools or academies) that were intended to prepare youths between the ages of 12 and 19 for war. A rivalry grew up between different youth groups, however, and in 1940 the Ministry of Education decided to unify many of them. They were unified into the *Dai Nippon Seinendan* (Greater Japan Youth Group), which had the role of preparing the country's youths for war. Included in the new organization

High-school students participating in military training during the summer of 1943 learn to use the 6.5mm training light machine gun. The exact school that these boys are from is not known, as the metal badge on their caps that would indicate this is not clear in the image. Most wear buttoned-up shirts in the heat of the summer instead of the black cotton tunic worn in winter.

were the Federations of Youths, Girls, Boys, and Boy Scouts. In January 1941, a ceremony to formalize the unification of the various groups was held in Tokyo. Teachers were often the leaders of the local branches of the Greater Japan Youth Group, and created their own badges, which usually carried the name of the city or town in which they were based.

BELOW RIGHT
Boys of the patriotic youth groups attend a parade in the last year of the Japanese resistance to the growing Allied threat. Their military-style uniforms were in short supply by 1944, by which time the rationing of cloth meant that all clothing was getting scarcer. The only insignia items visible are the cloth badges on their caps, each with the single *Kanji* character for "youth" in the center. Armbands were often worn as a substitute for other insignia, which like many uniform items became hard to find.

Patriotic youth groups had been in existence in Japan since 1915, and were made up of boys who had left elementary school and wanted a military career. Recruits received military training and spent their spare time learning military and other skills that might be useful. Agricultural skills were taught to the boys and during the post-1937 period many of the older boys were sent to occupied China and Manchukuo to work as militarized farmers. Boys of the patriotic youth groups featured heavily in the Japanese press, being depicted working in the fields in their military-style uniforms.

In the 1942–45 period, the various patriotic youth groups were absorbed into other organizations supporting the Japanese war effort. Most worked in factories or were recruited into civil-defense organizations that had been stripped by conscription of their adult personnel.

The *Boetai*

Between 1,400 and 1,800 Okinawan boys aged between 14 to 17 were formed into an armed group called the *Tekketsu Kinnotai* (Iron and Blood Imperial Corps). This youth defense force, also known as the *Boetai*, was made up of volunteers and conscripts. Weapons were in desperately short supply and many of the "volunteers" were armed only with bamboo spears. Others were issued with two hand grenades each, which were more plentiful than rifles or machine guns. A few were given the "honor" of strapping an artillery shell to their chests and then throwing themselves at tanks or other vehicles. The fact that they were unable to receive much training before Okinawa was invaded did not seem to be important to the Japanese high command. In many Japanese officers' eyes, the boys were Okinawan and were therefore seen as expendable. When the Allied invasion began, a large number of the *Boetai* died in suicidal fighting, but others, realizing the futility of continued resistance, surrendered.

F

YOUTH VOLUNTEERS

(1) Boy-scout bugler, 1938

The Japanese Scouting movement had existed since 1922, but it was not encouraged by the government. Scouts like this teenager often took part in military parades, troop farewell ceremonies, and air-defense drills. This scout bugler and his troop are taking part in a fire-defense exercise in the city of Yokohama during the summer of 1938. He has been issued with a plain linen armband that says he is a participant in the exercise. The headgear worn by Japanese scouts in the 1930s was the prairie-type hat popular with most international Scouting associations. On the front of his hat he has the bronze badge of the Japanese Scouting movement and a cloth *Hinomaru* ("circle of the sun") patch above his right breast pocket. His military-style uniform was worn by older scouts; the khaki tunic was sometimes worn with a white shirt and black necktie. He is playing an Imperial Japanese Army bugle, which would have been donated to him by the local garrison.

(2) Waseda University student volunteer, Tokyo, 1939

This university student from the military section of Waseda University is taking part in machine-gun training with his 6.5mm practice light machine gun. The crown of his student cloth cap is based on the mortarboard hats worn by university graduates in many countries. On the front of the cap he has a metal badge, which features the logo of his university. His five-button military-style tunic is made from light-khaki cotton and has his name and other details on a linen patch above the left breast pocket. Continuing the military theme, his breeches and puttees are similar to those worn by soldiers of the Imperial Japanese Army. A black necktie could be worn with a light-khaki or, in this youth's case, white shirt. Even at this early stage in the war, the equipment issued to this student volunteer is pretty basic, with a military rucksack, and a military-issue water bottle dating back to the Russo-Japanese War of 1904–05.

(3) Patriotic youth group volunteer, Osaka, 1941

This boy from a local patriotic youth group has volunteered to work in the fields during the school holidays. He carries a spade to dig in a vegetable patch while his fellow volunteers carry hoes and rakes. His military-style uniform includes brown-khaki field cap, tunic, and breeches, plus woolen puttees. On his cap he has the cloth badge of the local youth group and the same style of badge is also worn above his left breast pocket. In the center of both badges is the single *Kanji* character for "Youth"; some volunteers might have had the characters for their home city on the badge as well. He also wears two enamel pin badges on his right breast (**4**, **5**). A wide variety of uniforms were worn by the various youth volunteer groups throughout Japan.

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AIR DEFENSES

Most Japanese were led by their country's propaganda to believe that the Home Islands would be immune to air attack. When the large-scale USAAF air raids began in 1944, therefore, the Japanese tried to increase their antiaircraft capability.

Japan's air-defense forces in 1944–45 included 770 fighter aircraft, ranging from obsolete types such as the Nakajima Ki-43 *Hayabusa* (Peregrine Falcon) to models of the early 1940s such as the Kawasaki Ki-45 *Toryu* (Dragonslayer) and Ki-61 *Hien* (Swallow). There were also smaller numbers of the latest models, such as the Nakajima Ki-84 *Hayate* (Gale) and Kawasaki Ki-100. The USAAF lost 414 Boeing B-29 Superfortress heavy bombers during their 1944–45 strategic bombing campaign against Japan, with 74 estimated to have been lost to air attacks. Another 19 were lost to combined air and antiaircraft attacks and 54 to ground antiaircraft fire only.

In 1941 there were a paltry 300 medium and heavy antiaircraft guns earmarked for home defense. The two main models, which were adequate to perform the role, were the 120mm Type 3 and 100mm Type 14 guns, but there were only 200 of these available. The 88mm Type 99 gun with a range of 34,000ft was introduced as the war progressed, and these were supplemented by 75mm and 76mm weapons. These smaller-caliber guns had a range of only

Students taking part in an antiaircraft exercise in 1937 familiarize themselves with the workings of a 75mm Type 88 gun. Introduced in 1928, this gun was the mainstay of Japan's antiaircraft defenses for most of the war. With a range of 30,000ft, it was adequate, but could have been replaced with larger and more effective types.

A trio of 140mm Type 3 coastal guns shown during practice in the latter stages of the Pacific War. Most of these naval guns were installed on the Pacific islands occupied by Japanese forces in 1941–42. Offering a maximum elevation of 30 degrees, the Type 3 was not suitable for use as an antiaircraft weapon in its original form. Some were converted to be able to fire at a higher elevation and were used in the defense of the Japanese homeland.

20,000–30,000ft and were not particularly accurate at that range. By March 1945, the total number of antiaircraft guns had grown to 1,250 and by the end of the war in August 1945 there were 2,000 guns in service.

Tokyo was the best-defended city, with 331 heavy and 307 light antiaircraft guns of all types, but these were often manned by poorly trained volunteers. Shells were in short supply and were only available to use on "sighted targets," with "blind barrage firing" banned for this reason. The searchlight control and gunner-controlled radar systems were jammed frequently after April 1945, leaving the air defenders firing "blind."

In December 1944, the 1st Anti-Aircraft Division was raised to coordinate air-defense forces. There were eight antiaircraft regiments (111th–118th) and four independent antiaircraft battalions (1st–4th), plus two field antiaircraft battalions (95th and 96th) two machine-cannon battalions (1st and 4th), and the 1st Searchlight Regiment. The reality in late 1944 and 1945, however, was that there were not enough aircraft or antiaircraft guns to counter the mass USAAF air raids. Antiaircraft-gun crews were often made up of men over 45 years of age and young boys after the minimum age for volunteers was reduced in December 1944.

The evacuation of civilians, 1944–45

In 1940, the idea of evacuating Japanese children from the big cities to the countryside was mooted before the outbreak of full-scale war. A policy of mass evacuation of women and children from the cities was strongly opposed by the Japanese military, however. In 1941, an Imperial Japanese Army air-defense specialist said that any evacuation would require too much manpower; and Prime Minister Tōjō Hideki opposed evacuation on the grounds that it would weaken the Japanese family system.

In June 1944, as reports of Allied bombing of German cities and the Nazis' evacuation of children were studied, it was decided to commence evacuation. Initially, it was decided to evacuate elementary-school children, 3rd grade

Members of an aircraft ground crew of the Imperial Japanese Army Air Force's 244th Sentai (fighter regiment) take a break while their comrade services a Kawasaki Ki-61-I-Otsu fighter at Chōfu airfield, Tokyo, during the winter of 1944–45.

and above, from 13 of Japan's largest cities. Instead of following the British practice of placing evacuated children with individual families, however, the Japanese authorities sent many schoolchildren to the countryside in groups with their teachers. They were kept in their school groups and were housed in temples and other public buildings, sleeping in dormitories. During August 1944, before the heaviest USAAF bombing began, 337,000 children

G

AIR-DEFENSE PERSONNEL, 1944–45

(1) Volunteer, air-raid damage squad, Kobe, 1945

This middle-aged civil servant has volunteered to help in an air-defense role in the city of Kobe in 1945. It was up to older men and youths to step up and take on civil-defense roles to replace other men serving on the front line. He has brought his own binoculars from home to look for the telltale signs of forthcoming air raids and wears a steel helmet he has purchased at the local market. His jacket and trousers are from his "National Clothing" office dress as worn by many Japanese men. The jacket is styled on the shooting clothing of English country gentlemen. On his arm he wears a linen armband that describes his role in organizing air-raid damage work and bears the red symbol denoting the city of Kobe. His oval badge (**2**), worn on the breast of the jacket, has his name in *Kanji* characters on it as well as the Kobe city symbol.

(3) Antiaircraft-gun crewman, Osaka, 1945

This older volunteer has been conscripted to help crew a 75mm Type 88 antiaircraft gun protecting the city of Osaka. He has been chosen for this role because of his previous experience taking part in antiaircraft drills in the 1930s. Uniforms were issued to most volunteers and this man has been given a set of 2nd Category Imperial Japanese Army work overalls. On the breast pocket he wears a shield badge (**4**), showing that he took part in air-defense exercises in 1934. On the sleeve he has a linen armband explaining his role in the antiaircraft defenses of Osaka. His helmet is made from fiber and would give him little protection from the USAAF air raids he is facing. He wears Army-model *Tabi* shoes, which had a separate compartment for the big toe.

(5) Telephonist, Women's Communication Corps, Tokyo, 1944

To make up for the shortage of skilled male telephonists during the war, it was decided to raise an all-female communications unit. The Women's Communication Corps was organized in December 1942 and its personnel were issued with distinct uniforms. Her stylish uniform is made up of a side cap, jacket, and skirt made from fine cotton in a gray-khaki shade. On the breast pocket of her tunic she wears the eagle-and-lightning insignia peculiar to this unit; her cap features a star insignia. From propaganda photographs it appears that service in this unit was popular, being seen as a "glamorous" alternative to other military or civilian female war work. It also appears that some Women's Communication Corps personnel were given military training, even if it was only for the propaganda cameras.

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were evacuated in groups while another 459,000 moved in with relatives in villages and small towns. By the end of the war, 1,302,200 children had been evacuated, with 857,000 moving in with relatives while 446,200 moved into inns, temples, and other public buildings with their teachers. Extra caring staff had to be employed from the local population as teachers and *Ryobo* (dorm mothers).

By the last year of the war, 8.5 million Japanese had fled the cities that were coming under constant bombing, especially from April through August 1945. Tokyo's population dropped 63 percent and Nagoya's fell 29 percent after heavy bombing of that city in March 1945. It became almost impossible to stop vital war workers from fleeing with their families. Of the Japanese who left various cities and had been employed, 37 percent had worked in war industries. In the last months of the war, the shortage of materials meant that many war workers had little or no work to do.

THE TRANSPORTATION SYSTEM

The railroad system

By far the most important form of transportation in Japan during the war years was the railroad system, which had rail lines on all of Japan's Home Islands. The Japanese railroad system was 70 years old in the early 1940s and in the first 60 years of its existence it had expanded rapidly. Since the

This group of young railroad workers of the Japanese Government Railways were pictured in 1944, by which time young women had taken over many roles on trains. The Japanese policy was to conscript young men into the armed forces, no matter what skilled work they were doing in civilian life. These men may be student volunteers who have taken on roles as locomotive drivers, as most conductors were girls and young women.

Women in the transportation system

The railroads suffered from the usual shortages of manpower as increasing numbers of their male staff were conscripted after 1941. In 1937 there was already a shortage of 15,000 railroad workers, which by 1944 had grown to 170,000. From May 1944, shortages were filled by female volunteers, with 22–39-year-old single women employed by the Japanese Government Railways. In the cities, the subway system was also short of workers and in December 1943, the first 12 female conductors were employed. The first female subway driver was employed in August 1944, and by the end of the war 50 of the 100 drivers were young women. Bus companies had employed female conductors since at least the early 1930s and some took over the role of drivers from January 1942. Young women who took up formerly male roles on the railroads and bus services usually wore modified male uniforms.

early 1930s, however, the system had stagnated to some degree and much of it had not been upgraded since the 1920s.

Although the majority of the railroad system was controlled by the state, there were a number of small private railroad companies in Japan. These private companies often ran the trunk lines that fed into the main rail lines run by the Japanese Government Railways (JGR). Two-thirds of the 17,000 miles of rail network were owned by JGR, while the remaining one-third was owned by a number of private companies.

Rail lines usually followed the coastline to avoid the difficult terrain of the interior of Japan. Before the war, 10 million tons of goods were moved along Japan's railroads per month and this rose to 15.5 million tons during the war. As the war neared its close, lack of staff, shortages of crucial materials, and the general breakdown of the economy reduced it to 9 million tons by August 1945.

In 1943, long-distance rail travel for the public was heavily controlled in order to free up lines for military trains and for the transportation of vital industrial goods. In March 1945, the Railway Control Association, which was responsible for Japan's private rail companies, introduced measures to strengthen the transportation system. It tried to coordinate its activities more closely with those of the JGR to make the most of the diminishing resources available to the railroad system.

The Japanese rail network came under air attack during the war, but there was no systematic USAAF strategic bombing campaign to destroy it. Railroad staff themselves expressed amazement that their rather precarious network was not targeted more by the bombers. Because the USAAF strategic bombing campaign concentrated on Japan's cities, the railroads escaped relatively lightly. Locomotives were of course attacked by bombers and ground-attack aircraft, but more by chance than by planning. The rail network did not escape totally unscathed, with 20–25 percent of their physical facilities being destroyed and 2,500 of their personnel being killed or injured.

Shortages of steel obviously affected the maintenance of the railroad system, with one railroad in Hokkaido reportedly forced to use wooden tracks. The JGR was run as a quasi-military organization, with black military-style uniforms being worn by all its personnel. It also had a military-style

rank system with six basic ranks, with the highest three – *Chokunin*, *Sonin*, and *Hanin* – being management ranks. Below these were the operational ranks: *Testsudoshu* (foreman), *Koin* (skilled worker), and *Yonin* (unskilled worker). As with any company, managerial ranks were filled by the JGR leadership, while the *Testsudoshu* and *Koin* roles were chosen by *Sonin* managers and unskilled workers were hired by *Testsudoshu*.

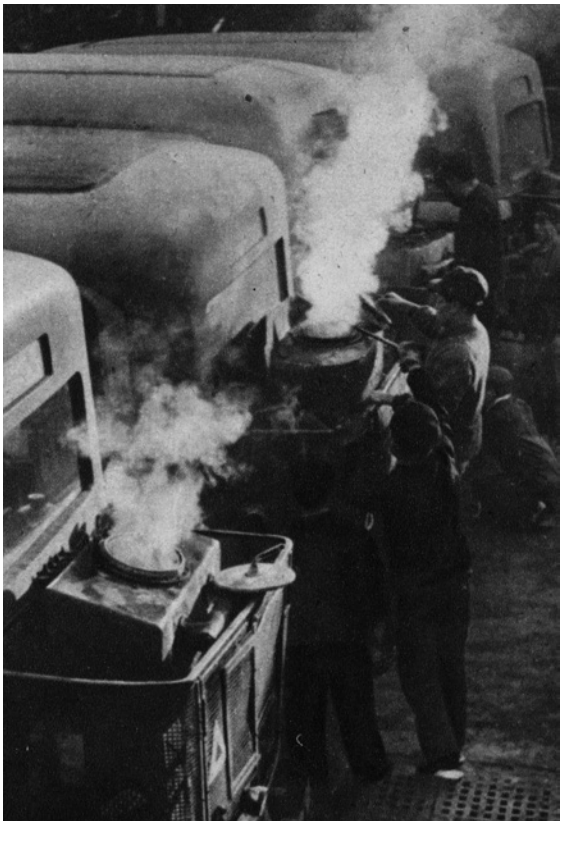
Motor transport

Compared to the United States and Western European countries, Japan had fewer motor vehicles, including the trucks and buses important for the economy. By the late 1930s, there were 100,000 buses and trucks on Japanese roads and this figure did not rise significantly during the war. In 1937 there were 16 Japanese companies manufacturing motor vehicles, with an industry target of 90,000 units per year. During the 1920s and 1930s, Japan had imported large numbers of British and French motor vehicles. On the eve of the Pacific War, the Japanese obtained a license to produce US trucks in Japan. Japanese production was switched from domestic to commercial vehicles for military and haulage work. The haulage industry was in crisis from the early period of the Pacific War, with its 60,000 trucks in 1940 reduced to an average of 37,000 during the conflict.

Problems with maintenance of trucks were not helped by the poor condition of most Japanese roads. There were 900,000 miles of road throughout Japan, but only 9,000 miles were regarded as being good-quality major highways. Owing to the chronic shortage of gasoline, most trucks and buses were powered by charcoal burners, which were situated at the back of

BELOW LEFT
The high cost of gasoline in Japan even before the attack on Pearl Harbor meant that a large number of public buses, taxis, and privately owned vehicles ran on charcoal. Here, bus drivers fill the burners at the back of their buses with charcoal in 1942 before going out on their routes. The gases produced by the burning charcoal were condensed into a liquid form and then fed into the vehicles' carburettors.

BELOW RIGHT
Pictured in 1943, this Japanese riveter is working on a merchant ship in an increasingly hopeless effort to compete with the US shipbuilding capacity. In 1943 the United States produced 11,448,156 tons of merchant shipping whereas the Japanese could produce only 769,085 tons. As more Japanese merchant ships were sunk, Japanese industry simply could not keep up with the demand.



the vehicle. The Japanese tried to produce alternative fuels for their motor vehicles and in 1943 the government tested "gasoline" made from shale and sardines.

In the Tokyo area in 1944, the number of serviceable trucks was down from 15,000 to 7,500. After the heavy air raids of March 1945, 2,200 of the already low total of 7,500 had been destroyed by bomb damage. Other cities suffered losses of vital trucks in the 1945 air raids, with Kobe losing 700 trucks, but had few drivers available anyway. In Nagoya there were only 1,400 trucks available, 140 of which were destroyed in the air raids of 1945.

At the start of the war there were 23,000 buses on the road, but by the middle of the war that figure had dropped to an average of 14,000 buses in service. Before the major air raids from 1944 to 1945 began, 15 percent of the trams operating in the "tri-cities" – Tokyo, Kawasaki, and Yokohama – had been destroyed and afterward up to 45 percent had been lost. Even before the air raids began, up to 60 percent of the three cities' buses had been destroyed and another 10 percent had been put out of service by August 1945.

In an attempt to free up space on public transport for war workers and military personnel, the public were banned from using buses and trams in some cities in 1942. From April 1944, any journey greater than 60 miles required a permit to prove that it was essential for the war effort. After the air raids of 1945, the whole transport system was virtually finished, although its workers tried to keep it operational against all odds.

Merchant shipping

One great weakness for Japan during the war was its lack of a large merchant fleet to convey oil and other natural resources from its newly won empire to the Home Islands. At the time of the attack on Pearl Harbor the Japanese had 6 million tons of merchant shipping, with another 4 million tons added during the war. Before the war, 35 percent of Japan's goods had been carried in foreign merchant vessels, but this state of affairs abruptly ended when the Pacific War began.

During the war the Imperial Japanese Army requisitioned 1.2 million tons of shipping and the Imperial Japanese Navy took an additional 1.4 million tons. By January 1942, the merchant fleet had been reduced by 1 million tons and the following year by 1.75 million tons. January 1944 saw the merchant fleet reduced by just less than 4 million tons and by January 1945 it had lost another 2 million tons.

As with all other Japanese industries, the merchant fleet suffered from the conscription of its crews for military and naval roles. Experienced crewmen were lost to the war, with many not even being conscripted into the Imperial Japanese Navy where their skills could be utilized best. These experienced crewmen were replaced by young, enthusiastic, but often useless schoolboys and youths. For this reason, ships' crews had to be increased in size by 20 percent by 1945 compared to 1941, to try to make up for a lack of quality with quantity.

By the end of the war, Japanese merchant ships were running a perilous gauntlet every time they tried to sail from or to Japan. In July 1945, Allied naval and air forces sank 139 Japanese merchant ships, with the majority going down along the Japanese coast. Out of this total only three ships were sunk out at sea, as the majority of merchant vessels tried to hug the coast as they moved around the Japanese Home Islands. As well as attacks by Allied

ships, submarines, and aircraft, the merchant ships also had to face US-laid minefields. These minefields accounted for 9.3 percent of all Japanese shipping lost during the 1942–45 period.

INDUSTRIES IN WARTIME

Although Japan had a fairly large industrial base in the 1930s, it could not compete with the much larger United States' industrial sector after 1941. In 1937, Japan accounted for 5.2 percent of the world economy while the United States accounted for 30 percent. Japan's industry was on a par with that of France and was about half the size of Britain's and the Soviet Union's industrial capacity. During the 1930s the Japanese had specialized in light-industry products, but they also had a fairly developed heavy industry. Once the Pacific War began in December 1941, the scale of the important Japanese industries was dwarfed by those of the United States. For instance, Japan produced 24.1 million tons of crude steel, while the United States produced 334.5 million tons. Japan also produced 361,000 tons of aluminum in comparison to the United States, which produced over ten times as much, at 4,123,000 tons.

During the war a series of often desperate attempts were made to increase Japan's war-industry production. A Labor Mobilization Plan, introduced in spring 1943, strongly urged women to join the workforce, but fell short of ordering them to do so. Among the unmarried women who did volunteer to join the workforce, many managed to get "soft" jobs in offices to avoid hard physical work. In November 1944, the Japanese government tried to instill a new "special attack spirit" into the hard-pressed labor force. Even though most workers were being pushed to their limits, some agreed to form "special units" whose members pledged to make greater sacrifices. There was an obsession with reaching higher and higher monthly production quotas introduced by the workers' managers. These quotas were especially important in the war plants, even though lack of materials meant that they could not realistically be met. The reality for many factories in 1944–45 was that they could not get the materials and resources they needed. One example was Tsugami Precision Engineering Industry Co., Ltd, a manufacturer of machinery, which canceled its night shift in 1944. The reasons for the reduction to one shift were listed as: (1) a shortage of skilled workers; (2) a shortage of instructors and supervisors; (3) a shortage of food for the night shift; and (4) a lack of coal to use on the night shift.

Japanese workers were pressured into spending more time at work and taking fewer holidays, especially in the last few years of the war. In January 1943, the government told Japan's 2.5 million clerical workers to work harder and longer hours. They were told that this was what was expected when their fellow Japanese working in factories and soldiers fighting at the front were already making great sacrifices. By the end of the war, factory workers were working 12-hour shifts to which were added overtime and then extra overtime on top.

Workers had little or no time off in a month and even took on second jobs in order to bring in enough money to feed their families. If a worker took a day off due to illness or sheer exhaustion, he or she would be visited

Boy factory workers at their machines in an engineering factory pose for the propaganda cameras in 1943. Their smart blue overalls are worn with khaki field caps, which are similar to those worn by the Imperial Japanese Army. One boy in the foreground wears a red armband with two white bands around it, which suggests he is a charge hand or junior foreman. (Roger Viollet via Getty Images)

by a factory supervisor to check on their condition. Some workers did over 100 hours per week, while others raised their own "special units" the intention of which was to increase production by 80 percent. Constant 12-hour shifts were the norm, with two days off per month for the more fortunate, which began to affect workers' physical and mental health. As the war dragged on, the enthusiasm of many Japanese workers waned and morale fell, leading to increased absenteeism. In 1943, 10 percent of workers were regularly absent from work without having a legitimate reason. The following year, the level of absenteeism rose to 15 percent, with many workers being totally unmotivated.

In an attempt to keep workers in line, labor unions were banned from 1938 until the end of the war. They were replaced by a national organization, the *Dai-Nihon Sangyo* (Industrial Patriotic Association). This state-sponsored labor organization hoped to organize workers, especially those who worked in munitions plants. The association appointed representatives in most factories in the same way as the old unions had, but emphasized their members' support for the war effort.

The Japanese labor force

Throughout the war the main impact on the Japanese labor force was the armed forces' insistence on conscripting men regardless of their role in

Factory workers' uniforms

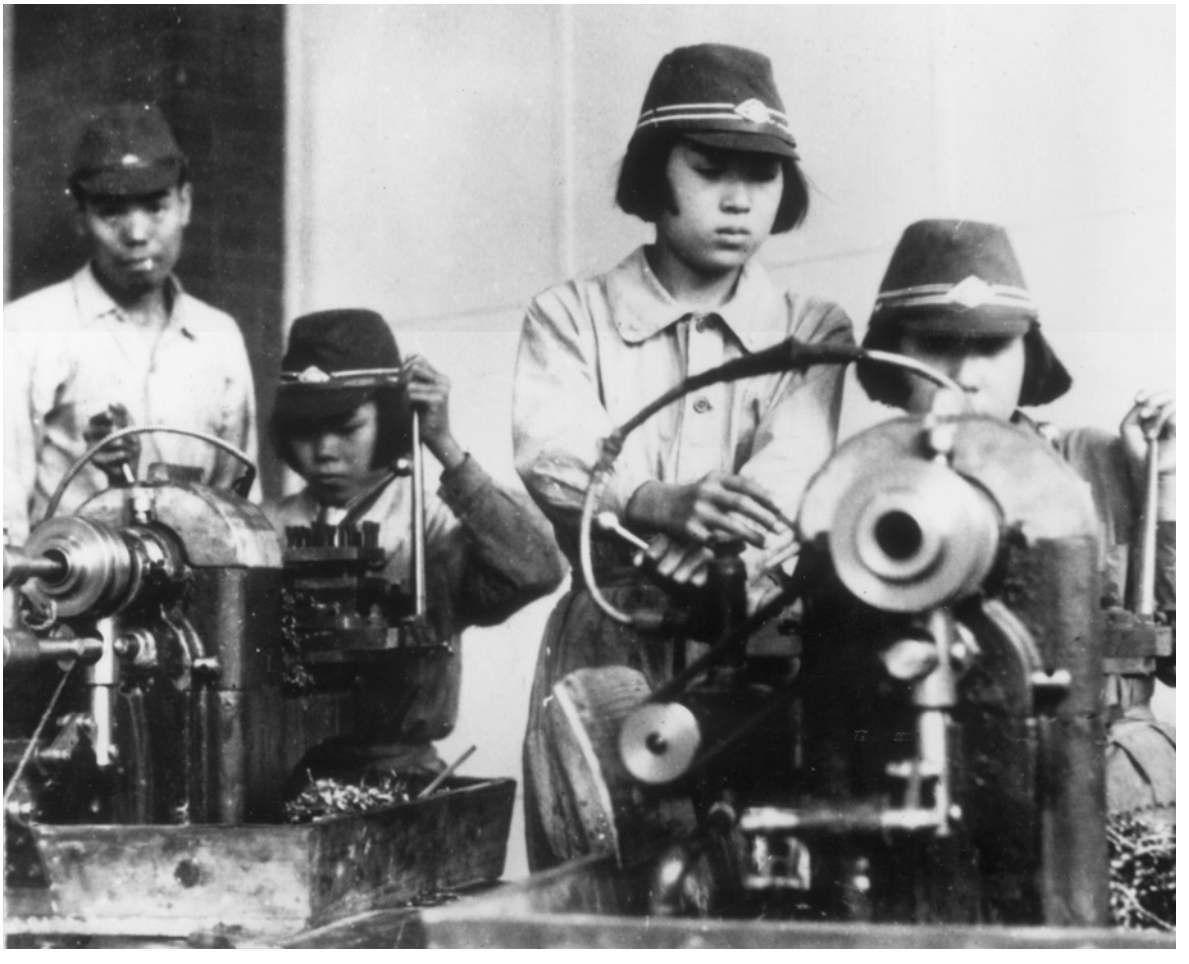
Some factories, especially the larger ones in the munitions sector, issued their workers with uniforms. These usually consisted of military-style field caps in various shades of khaki, worn with overalls. The overalls were usually described as being blue, but light-khaki and black ones were worn as well. One Western journalist who inspected the female workers at a factory noted that all of them wore black smocks as uniforms. In reality, the shortage of cloth from 1937 meant that large amounts of material were hard to source.

On the lapels or breast of the overalls the workers wore metal badges that usually carried the insignia of their factory and company. Both men and women usually wore the military-style caps, which usually had a pin or cloth badge featuring the logo of the factory/company they worked for. Bands were often fastened to the base of the workers' caps to indicate the wearer's section and his or her rank within the factory. The rank system was complicated (and influenced by factory politics and nepotism), with ranks for team leaders, foremen, and section leaders. In ascending order, the basic ranks were apprentice, regular worker, sub-leader, and group leader. Higher-ranking factory employees such as supervisors usually wore military-style uniforms with a field cap.

Workers employed by a military workshop or factory often had a red cloth badge in the shape of a five-pointed star sewn onto their clothing. This was the same interlocking tape star that was worn by the civilian personnel of the Imperial Japanese Army, who were known as *Gunzoku*. In the last year of the war, many female factory workers took to wearing the *Hinomaru* ("circle of the sun") headband, as a way of supporting the *Kamikaze* (Divine Wind) suicide pilots, who wore *Hinomaru* headbands when going on their final flights.

BELOW LEFT
This March 1945 cover from *Shashin Shuho* shows an engineering factory worker using his lathe. On the front of his military-style cap he has the badge of his factory and on his shirt he wears the number "3," which probably denotes his section. There was no set uniform for Japan's factory workers in World War II, although caps like this one were typically worn.

BELOW RIGHT
A young woman who has been conscripted to work in a munitions factory concentrates on the correct operation of her lathe. She is helping to produce 7.7mm Type 92 heavy machine guns for the Imperial Japanese Army in one of several factories manufacturing this weapon. On her military-style field cap she wears the symbol of the Industrial Patriotic Association, a silver three-legged insignia with a red circle in the center.



Young girls operate machinery in an engineering works under the close supervision of an experienced male worker. The girls wear military-style field caps with two white stripes around the base and the factory insignia on the front. They wear a works uniform composed of a light-khaki cotton blouse and darker khaki wool trousers. (Keystone/Getty Images)

civilian life. By 1945 there were over 6,000,000 men serving in the Imperial Japanese Army at home and abroad. Others served in China and other occupied territories in civilian roles such as the *Gunzoku* (civilians in military employment). Even the most highly trained civilian workers were not given special status and instead were sent off to war to perform increasingly pointless roles such as garrison duty.

As the war progressed the Japanese government introduced several desperate measures to increase the numbers in the workforce. One such measure was to release 50 percent of the country's 50,000 convicts to perform laboring roles. Workers shipped from the Japanese-controlled territories of Korea and Formosa were increased in number. Between 1939 and 1945, nearly 725,000 Koreans were recruited by Japanese companies and state organizations. Some were employed in building air-raid bunkers and military fortifications, but they did not work in munitions factories. During the 1937–45 period, a total of 1.3 million Koreans were employed in Japanese industry. They were usually given the heaviest and dirtiest work, including mining and heavy construction. In the chaos of 1945 Japan, many Koreans left their workplaces and waited for the end of the war.

Chinese laborers were also shipped in their thousands from occupied China, in most cases under duress. Some Chinese and Manchurians were willing to volunteer to work in Japan, however, usually due to the chronic shortage of

food on the Asian mainland. They were housed in appalling conditions and fed as little as one bowl per day of thin gruel with no nutritional value.

Equally as brutal was the use of an estimated 30,000 Allied prisoners of war in Japan's mines and other dangerous and unhealthy workplaces. Although the employment of prisoners of war in manual labor was forbidden by the terms of Geneva Convention, Japan's leaders did not recognize most international laws during World War II unless it suited them to do so.

Women in the war industries

Women had a long history of working in certain Japanese industries, with a large number employed in textile, silk, and weaving factories. These women were usually from poorer backgrounds and their wages were badly needed to supplement the household income. They were usually unmarried, with the expectation that they would stop working when they got married. If they were from a rural background they would be expected to toil in the fields on their family farms and vegetable plots. This previous hard work on family farms gave them the ability to work long shifts in factories when they went to work in industry.

Surprisingly for such a masculine society, the Japanese expected fit young women to lift heavy loads and clear rubble after an air raid. A women's volunteer labor corps was formed and by 1944 there were large numbers of females working, mainly in 17 vital industrial sectors. Among these were the aircraft-manufacturing industry, munitions works, electrical works, and the pharmaceutical and textile industries. Prime Minister Tōjō had resisted the conscription of women for war work, but after he left office on July 18, 1944, it was introduced. His successor, Prime Minister Koiso Kuniaki, stipulated that women should make up 40 percent of workers in coal mines and 60 percent of those in vital industries and services. Surprisingly, though,

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INDUSTRIAL VOLUNTEERS

(1) Female munitions worker, 1944

This factory worker is in her late teens and has volunteered from her school to help the war effort. She wears an armband that states that she had previously attended the Aizuwakamatsu Women's Commercial School in Fukushima prefecture. Her gray overalls are made from cheap *Sufu* cloth, which was prone to tear and usually soon fell apart. Such clothing could only be washed a few times before it literally disintegrated, but it was all that was available. On the right breast of her overalls she wears the silver pin badge (**2**) of the *Dai-Nihon Sangyo* (Industrial Patriotic Association), the pro-government labor organization. Plain white headbands were worn by some female workers, but this changed after the appearance of the *Kamikaze* (Divine Wind) suicide pilots in late 1944. New headbands with the *Hinomaru* ("circle of the sun") symbol on them extolling the feats of the *Kamikaze* volunteers then became popular with young women, many of whom viewed these young men as heroes.

(3) Volunteer, Mitsubishi Aircraft plant, 1945

This teenage volunteer working at the Mitsubishi Aircraft factory wears a military-style field cap made from a sacking-type material. On the front of his cap he has pinned a plastic badge with the red Mitsubishi company logo painted on it. His dark-blue denim jacket and trousers are the type sold by workwear outfitters and could be purchased from their catalogs. Pinned to the right breast pocket of his jacket is a small tin badge (**4**) that shows he works for an aircraft producer. Stamped on the badge is the boy's personal identification number. The shortage of any footwear in Japan by 1945 means he is wearing an old pair of shoes handed down to him by one of his older brothers.

(5) Supervisor, Nakajima Aircraft factory, 1944

Many Japanese workers were issued with some kind of uniform, especially higher-ranking officials such as this supervisor at the Nakajima Aircraft factory. He wears a military cap, tunic, and trousers. On his arm he wears a white linen armband, which describes his role of supervisor. On his right breast he wears the company's blue, white, and red enamel cross badge (**6**), which shows that he has been wounded during the course of his duty at the factory. These were usually issued to staff who were injured during an air raid, but sometimes also to those who had suffered work-related accidents. The rest of his military-style uniform includes straight-legged trousers and black leather boots, purchased by the factory.

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Young women at work in a munitions factory in 1942 check bullets before packing them into the ammunition boxes in front of them. Like many factory workers in Japan the women wear a uniform, in this case consisting of a dark-blue dress and cap. On the left breast of their dresses they have a circular tin badge that bears the company logo and often the individual identification number of the worker.

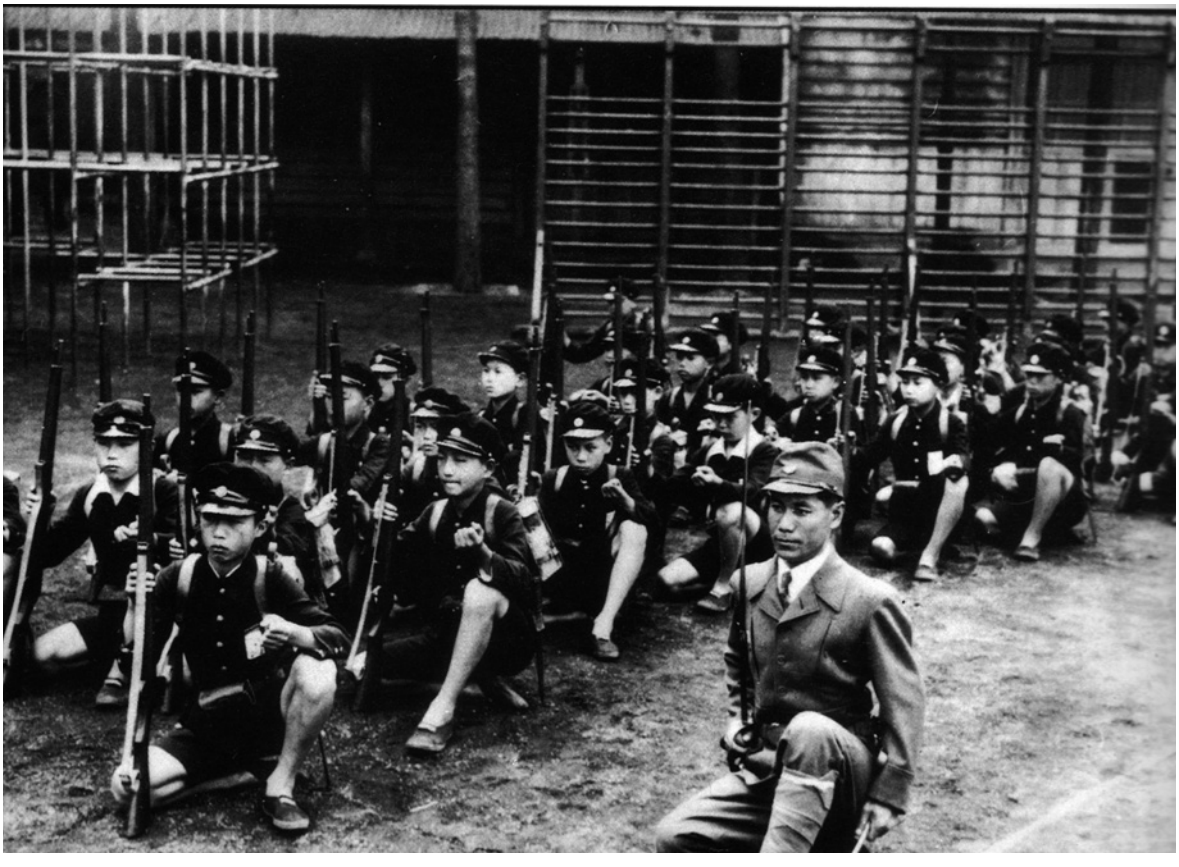
in 1944 there were still 400,000 girls and young women employed as domestic servants by the more affluent Japanese families.

Japanese youths at war

In Japan the employment of women, children, and youths was vital to the country during the 1937–45 period. The Japanese leadership had few or no scruples about using young citizens in the war effort, working in factories, on farms, and if necessary at the front line. In 1940, elementary schools were renamed "citizens' schools," with a new militarized curriculum. Children born in 1930 who were 14–15 in 1945 had only known their country in wartime.

August 1941 saw a "National Program of Mobilization" introduced, which saw boys and girls aged 15 and older put on a list of those ready to work in factories, down mines, and on farms. This law was further reinforced in June 1943 with the "Students' Wartime Mobilization Law," which stated that all schoolchildren aged 11–13 and university students would now be subject to conscription for war work. They could be told to work as factory workers, farm hands, construction laborers to build defense installations, or to join the armed forces. Thousands ended up working in war industries, replacing adults who had been conscripted. After 1943, 50 percent of workers – rising to 80 percent of workers in war industries – were youths, who were known as *Seishonen*. In the vital aircraft-manufacturing industry, the majority of workers were aged between 15 and 20 years.

As the war entered its last few months the school year that should have started in April 1945 was canceled. Instead, children and teenagers



Pictured in 1942, a "citizen school" teacher dressed in a quasi-military uniform drills his pupils, who are wearing their school clothing.

Four friends or brothers pose for a wartime photograph wearing four types of high-school and university caps. Three of the youths wear the black cotton jacket and breeches that were worn by all Japanese students in winter. The fourth youth wears a brown or light-khaki cotton jacket of the type that was usually worn in the summer. Caps came in variety of styles, with the older youth at top left wearing the mortarboard style with the badge of Waseda University on the front. This type of cap was popular with the more traditional universities, with the original Imperial University being the first to wear it.

ABOVE LEFT
This student from Waseda University is featured on the cover of *Shashin Shuho* in 1943 before being called up. All Japanese universities had armed military groups in which students could drill and take part in various military maneuvers.

ABOVE RIGHT
Two young brothers having had their portrait taken in a studio in 1944 to show off their factory uniforms. The seated youth wears a light-khaki cotton shirt and trousers and has been issued with a military-style field cap with a round metal badge on the front. On the left side of his chest he wears a badge which, like his cap badge, shows which factory he works in. His brother's dark cotton tunic has two different badges on the lapels and a type of insignia on the khaki field cap. It was often the case that the youth workers would improvise by adapting their old school uniforms and adding badges to them.

were mobilized to help the war effort in industry or to assist the military. Hundreds of thousands of elementary- and middle-school graduates were being recruited to replace men fighting at the front when the war ended in August 1945.

Feeding the nation

In the 1930s Japan was a predominantly rural nation and farming was the main source of employment, with 50 percent of the Japanese population involved to some degree in the production of food. Even so, 20 percent of the staple food, rice, had to be imported. The loss of most food imports put more pressure on domestic food producers, who struggled to meet demand. The main problem for Japan's agricultural production was the lack of arable land, with only 15.6 percent of land being usable for growing crops. There was only half an acre of arable land per head of population – the lowest ratio of any country in the world. Paradoxically, the price of rice was affected in the 1930s by overproduction, which made growing the crop unprofitable. Farmers stopped planting the crop and this trend had to be reversed in order to try to feed the Japanese population.

Women were vital to agriculture even before their menfolk were conscripted into the armed forces. In 1930, 60 percent of the 1.5 million working women were employed on the land, predominantly on family farms. Married women had always been important for farm work, with 36 percent of them employed in the countryside. Agricultural work was hard and the lack of modern farming equipment such as tractors made it harder still. Horses were in short supply as most had been confiscated by the Imperial

Japanese Army, resulting in female farmworkers having to pull plows. As well as the pressure to feed Japan's human population, large amounts of crops had to be harvested as fodder to feed the Imperial Japanese Army's horses.

A "Patriotic Farm Association" was formed in 1938, but was largely ineffective and just added to the plethora of groups and associations. It was seen to be unnecessary as most rural families had already organized themselves over the years into unofficial community-support groups. There was little that could be done to improve the situation and things got harder as the war progressed. In a typically confused policy, in 1944 the government exempted the few remaining male farmworkers from military service. At the same time they called up more skilled industrial workers, thereby hampering the war effort in the cities. Government demands for higher agricultural production in 1944 were met with indignation by most farmers. In response, they were told that if they did not increase the yield from their farms they were "unpatriotic" and "criminals against the state."

ABOVE LEFT
The caption to this July 1943 cover of *Shashin Shuho* refers proudly to the boys featured on it. Described as "Production Warriors," these teenagers have been using the hoes they carry to dig in their factory vegetable patch on their only day off. According to the journalist, they worked happily until their factory uniforms were covered in dirt instead of the grease from their usual daily work.

ABOVE RIGHT
This image, taken from a photographic feature about high-school students helping to bring in the harvest in 1944, idealizes the Japanese war effort. Like other school students of both sexes, this girl has volunteered to help in the countryside during school holidays and at weekends. During the war, photographic magazines were full of features showing schoolchildren working in Japan's fields and factories.

DAILY LIFE IN WARTIME JAPAN

Restrictions on daily life

The westernization of some aspects of Japanese daily life in the early 20th century introduced the population to new delights. In the 1930s, however, some of the pleasures of everyday life in Japan were curtailed by wartime restrictions. From 1939, Japan's fashionable young women were

discouraged from wearing cosmetics. They were also discouraged from having permanent waves in their hair, with only three waves allowed per client. This was to save on hairstyling products and on the electricity needed to warm up those products. Any device that used electricity was liable to limitations being put on its use, with the number of elevators in use in city-center office blocks being reduced to save power.

Dance halls, which were seen as too Western, were closed in 1938 and cabaret clubs were closed in 1944. In spring 1944, 1,000 of the best restaurants in Tokyo were closed down and were replaced by 100 low-priced eating houses. A year earlier, 10,000 brothels and *geisha* houses had been shut, largely at the insistence of the Great Japan Women's Association. Most of the sex workers were coerced into working in the munitions and other war industries. At the same time, breweries in the city of Osaka – where *sake*, the best-quality staple alcohol of Japan, was made – were shut down. The fact that 33 percent of Japanese rice production went to *sake* production made their closure vital.

A particularly hard blow for many Japanese was the closure of the much-loved public baths in 1944–45. In spring 1943, the government introduced a ban on drama and other theater performances, unless they were deemed to aid Japan's war effort. Theater groups then took their shows on the road, performing in improvised local playhouses and at the larger factories. When other entertainment was not available, the government suggested reading a good book at home. Unfortunately, there was a lack of new books and magazines due to paper shortages. When a customer bought a magazine, he or she was expected to hand in an old one to be recycled.

In an effort to instill patriotic fervor in the Japanese population, some well-known sumo wrestlers are depicted being given weapons drill in 1941. Sumo wrestlers were very popular in Japan and the image of them "doing their bit" for the country would have a positive effect. How many of these sportsmen went on to fight for Japan is not known, but a number must have been called up later in the war for some duties.

Close to Yokosuka Navy Base, a large air-raid shelter had been dug into a rock face to accommodate large numbers of military personnel and civilians. Facilities in the shelter included a library, a place of worship, and a first-aid room, as well as dormitories for hundreds of people. Part of the planning for the shelter included a stopgap way to produce electricity if the generator was put out of action. Personnel would use these adapted bicycles to power the fans that kept the underground shelter ventilated.

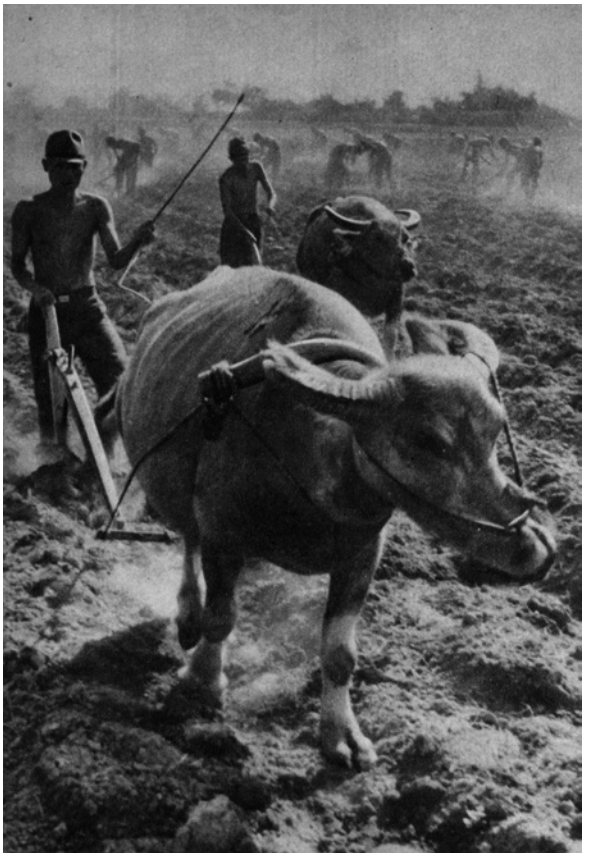
The rationing of goods and services

Clothing was one of the first commodities to be affected by shortages after 1937, though rationing was at first unofficial. Cloth of all types was in short supply during the war, with amounts of wool and cotton reduced by 92 percent. Cotton production was reduced by 24 percent, wool production was down by 19 percent, and silk production fell by 30 percent. Ration coupons were introduced in June 1943, with 100 coupons issued to each person per year. At the same time, guidelines were issued advising the population how best to use the available cloth. It cost 60 coupons to buy a greatcoat and when the yearly issue was reduced to 30 coupons in 1944, it took two years to buy a coat.

Even middle-class women had resorted to the wearing of *monpo* (peasant clothing) by 1944 and by 1945 *kimonos* were not seen on the street. One reason for the lack of this traditional style of clothing was that women were recycling them to produce the *monpo*. The government promoted the wearing of the so-called "active garments" by women as practical during air raids. Footwear was also in short supply from relatively early on in the war, with new leather shoes becoming progressively harder to buy. Substitutes for leather were sought, with whale hide being one of the more popular examples. Even crude wooden clogs and sandals were in short supply and children were encouraged to make *waraji* (straw sandals) in their spare time.

Nearly all other goods were in short supply, with anything that was made from metal, such as irons and hot-water bottles, now being made from pottery. Soap production was down by 96 percent from prewar figures and paper production of all types was down by 92 percent. By the last few years of the war, toilet paper was rationed to three pieces per person per day.

Cigarettes were seen as a luxury and in 1944, several thousand Tokyo residents were photographed queuing around a department store. When they eventually reached the front of the line they were allowed to buy one packet



ABOVE LEFT
Photographed in the summer of 1943, most of these young Imperial Japanese Army recruits wear the pre-1937 peaked cap, which had been replaced in front-line service by the field cap. Shortage of leather also saw the introduction of rubberized equipment, along with various inferior types of cloth for uniforms. (Werner Cohnitz/ullstein bild via Getty Images)

ABOVE RIGHT
In this photograph, taken from a 1944 Japanese magazine, young soldiers help in a paddy field leading the farmer's water buffaloes. The irony of this situation is that the soldiers are filling the shortage of agricultural workers caused by unfettered conscription. By this time most of the workers on farms were either women or young boys and girls often sent from the cities of Japan to take part in this kind of work.

of poor-quality cigarettes per customer. Lighting cigarettes usually involved matches, which had been shortened in length by 0.29in to save on timber. Wood shortages and the high death rate in 1944 meant that coffins had to be rented out for funerals and returned after the interment.

Food shortages

Although Japan was a largely rural society, before 1941 the country still relied heavily on imported food. As more and more merchant vessels were lost to Allied attacks, however, shortages of many food products grew. This was particularly the case in cities, where there was little access to vegetables and other foods if the shops ran out of supplies.

One of the biggest food losses for the Japanese people's staple diet was fish, which could no longer be caught by deep-sea fisherman. After 1941 it became too dangerous to try to fish out at sea as so many boats were being sunk by Allied aircraft and submarines. The only reliable source of seafood was squid, which could be caught close to the coastline of Japan. By late 1944, fish had largely disappeared from Japanese markets because of the shortage of fishing boats. Meat and dairy products were also in short supply, though neither was a part of the staple diet of most Japanese. Replacements for fish and meat were introduced into the nation's diet, including dolphin, seal, and shark meat. Dolphin skins could also be used to make shoes and oil from their brains could be used as a lubricant.

Replacements for staple food and food products included synthetic beer and sugar, and butter made from silkworms. In 1940 the government

introduced a rationing system for some food items, including vegetables, sugar, seafood, and dairy goods. Rations for meat and fish were quite meager, with 1.3–1.8oz of meat and 1.8oz of fish allowed per day. As early as 1942, the daily amount of rice allowed per person was down to 11.6oz and was only going to get lower as the blockade against Japan began to bite. By early 1945, rice rations had been drastically reduced, to about 33 percent of the amount that the average person needed.

Daily calorie intake during the war went down from 2,265 in 1937 to 2,000 in 1941, 1,900 in 1944, and only 1,650 in 1945. There were attempts to raise the food rations of factory workers to 2,600 calories, but this proved impossible to do. A job in a munitions works was supposed to qualify workers for noodles in their ration, but these were in short supply. Malnourished city-dwellers went into the countryside to try to buy food on the black market. By 1944 the black market had become essential for many Japanese with 9 percent of rice supplies, 38 percent of fish, and 69 percent of vegetables being supplied from this source. City-dwellers exchanged their clothes and valuables for fruit and vegetables, but the prices asked by the villagers became unaffordable. In desperation, one Kyoto resident travelled 1,600 miles by train to buy enough bags of sweet potatoes to feed six families.

As prices went up, people tried to supplement their diets by digging up roots and eating pumpkins. Grasshoppers were gathered as a welcome source of protein for the increasingly desperate population. Rations at a local level were controlled by the neighborhood associations, which tended to favor families who showed enthusiasm for the war effort. Some residents who did not receive a fair ration argued with the association leadership, but some resorted to desperate measures. One way to get around the system was to not report any deaths in the family and continue to use the deceased person's ration allotment.

A Japanese military officer instructs a group of women belonging to a neighborhood association and conducting drill with their sharpened bamboo spears in 1945. The expectation of an Allied invasion of the Home Islands was supposed to motivate women like these to die for their country. Thankfully, they were not called upon to confront Allied tanks with anything more lethal than bamboo spears, so we will never know whether civilians thus armed would have fled or stood their ground.

Female office-workers sit in a city-center air-raid shelter formed from a concrete tube in 1942, at a time when Japan had suffered only one well-publicized air raid. The raid, conducted by carrierborne North American B-25 Mitchell medium bombers, was a propaganda victory for the United States and was met with indignation by the Japanese public. In the same way that the authorities in Nazi Germany were furious that Britain's Royal Air Force Bomber Command bombed German cities in 1940, the Japanese could not believe that the USAAF had the temerity to bomb their homeland.

Public health

Generally speaking, public health was good during the early years of the war, but began to decline, largely due to shortages of food. Malnutrition, long working hours, poor housing, inadequate clothing, and lack of heating began to take their toll as the war continued. The incidence of tuberculosis increased, especially among hard-working factory workers, who often lived in crowded dormitories. When large numbers of civilians were evacuated from the cities, they found conditions in the villages they reached to be just as bad. Hygiene in overcrowded villages led to outbreaks of various diseases associated with lack of toilets and adequate sewers. In many districts, household rubbish was able to be burned by members of the neighborhood association. Human waste had traditionally been taken away by truck into the countryside to use as fertilizer. As with all other aspects of Japanese life in the war, however, shortages of both trucks and drivers led to buildups of sewage, which affected the population's health. In the winter, other issues affected public health, including shortages of fuel, woolen clothing, winter coats, and shoes. These various privations all contributed to the deterioration of the health of the Japanese population.

The effects of US bombing on Japan

The Doolittle Raid on Japan on April 18, 1942, involved only 16 two-engine North American B-25 Mitchell medium bombers launched from the carrier USS *Hornet*, but its effect on the morale of the Japanese people was totally out of proportion to the damage that was done to Tokyo and a few other targets. From June 1944, the USAAF's four-engine Boeing B-29 Superfortress heavy bombers began bombing Japan from bases established in mainland China. It was not until the Japanese-held Mariana Islands, Guam, Saipan, and Tinian fell to the US Marine Corps in 1944 that large-scale air raids on Japan began. Almost immediately, bases were built for

the B-29s, which were then capable of dropping huge amounts of bombs on Japanese cities.

XXI Bomber Command, first under the command of Brigadier General Haywood. S. Hansell and then Major General Curtis E. LeMay, was given the task of bombing Japan into submission. Under LeMay a new policy of nighttime attacks by large numbers of B-29s was introduced. By early 1945, in a campaign lasting for five months, hundreds of B-29s carried out raids over most of the main Japanese cities. During 1945, a total of 1,273,115 incendiary bombs were dropped onto Japanese cities. It should be borne in mind that at this time, many of Japan's domestic buildings were built of wood and paper. From November 1944 through August 1945, 194,930 tons of bombs were dropped, resulting in the destruction of 56.30 square miles of Tokyo and 15.54 square miles of Osaka. Other cities, such as Nagoya, suffered to a large extent, with 12 square miles of that city being totally destroyed.

In human terms, the cost in lives over the five months of heaviest bombing in 1945 saw 310,000 Japanese killed and 412,000 injured. On the night of March 9/10, 1945, a particularly heavy raid on Tokyo by 330 B-29s dropped 1,667 tons of bombs and destroyed 15 square miles of the city. This one raid killed 80,000 people and injured as many as 160,000, most of them civilians, and destroyed 261,000 buildings. On the ground, the inadequate civil-defense personnel tried desperately to battle the firestorm caused by the raid.

In the aftermath of the March 9/10 raid, many thousands of the survivors of the bombing moved out of the city into the countryside. A nationwide policy of evacuation from Japanese cities into the countryside was now introduced. From June to mid-August 1945, the bombing campaign was extended to 58 small and medium Japanese cities. The Allied bombing of Japan reached its grim climax with the dropping of two atomic bombs, the first on Hiroshima on August 6, 1945, and the second on Nagasaki on August 9. Between 129,000 and 226,000 people were killed, and Japan surrendered unconditionally on August 15.

Japanese soldiers march through Tokyo, having been drafted into the capital to help with rescue and clearance work in the city ruins. In the aftermath of the worst air raids on Tokyo in 1945, 5,500 regular troops stationed close by were used to support the regular and local firefighters. In reality, there was little that these men could do apart from try to clear some of the debris from the streets and hopefully pull a few injured inhabitants from the rubble. (Pictures Inc/The LIFE Picture Collection via Getty Images)

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Four women from a Japanese family pose for a snapshot wearing the clothing they have adapted for their role as air-raid volunteers. They wear what is basically rural peasant clothing, including *monpe* pantaloons, loose-fitting blouses, and headscarves. During a fire they would hope to have wadded-cotton hoods, which might provide them with some degree of protection during an air raid. Unfortunately, these hoods often created more problems than they solved as the materials they were made from were flammable, especially amid the extreme heat of the 1945 firebombing raids.

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ABOVE LEFT
This cover from an October 1943 issue of *Shashin Shuho* shows the girls of Taizhong No. 1 Girls' School taking part in military drill. The covers of the various pictorial magazines published in Japan during the war often featured females of various ages drilling with rifles.

ABOVE RIGHT
An Imperial Japanese Army Air Force pilot poses for a propaganda photograph featured on the cover of *Shashin Shuho* on 8 December 1943. By that date the Japanese air forces defending their homeland had been stripped of resources as the Japanese authorities sought to reinforce their military assets in the Pacific theater. Once the large-scale USAAF air raids were ramped up in 1944, men like these were required to continue to fight against greater and greater odds.

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Dedication

This book is dedicated to my wife and family.

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FRONT COVER: Pictured in the summer of 1944, a mixed unit of *Keibodan* and other volunteers takes part in a drill armed with bamboo spears. As the end of the war drew closer, the possibility of spear-wielding volunteers facing an Allied invasion began to look more like a reality. The Japanese had mobilized volunteers in various parts of their recently won empire and armed them with spears. There were simply not enough rifles to go around, but these men would have been told by their instructor that a bamboo spear was deadly enough if used with determination.

TITLE-PAGE PHOTO: Japanese soldiers take part in a mid-1930s antigas practice, wearing what appear to be rudimentary protective clothing, gas masks, and early-pattern steel helmets. The perceived threat of gas attacks all over the world in the 1920s and 1930s meant these kinds of drills took place in many countries. In reality, however, the main users of gas as a weapon were the Japanese themselves, who employed it against the Chinese after 1937. Italy also used gas, during the conquest of Ethiopia in 1935–36, and both nations were roundly criticized by the rest of the world for doing so.